Recreating Health Professional Practice for a New Century

The Fourth Report of the Pew Health Professions Commission

December 1998

THE CENTER
FOR THE HEALTH PROFESSIONS
University of California, San Francisco

Suggested citation style: O'Neil EH, and the Pew Health Professions Commission. San Francisco, CA: Pew Health Professions Commission. December 1998.

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Executive Summary

This fourth and final major report of the Pew Health Professions Commission comes at the end of the most dynamic decade ever faced by the nation's health professionals. As disruptive as this period has been, however, it may only have been the prelude. The health care system in the US will continue to change. It can only be hoped that in so doing it will respond to the challenge of delivering care that is of the highest quality, but responsible in the way that it uses resources. To do this, health professionals must continually reconsider, in fundamental ways how they may best add value to the delivery of health services.

To succeed in this new world the professions and their leadership must learn to balance individual needs with system and population constraints. The regulatory system for health professional practice must be reinvented to ensure the highest level of practice from professionals. In some instances this will mean learning new skills and practicing in new ways. It may also mean giving up some of what has been valued in the past. Finally, it means aligning the size of the professions to meet public purposes.

Four challenges have informed the Commission's work from its inception and remain at issue today.

First, the nature of health care work is being reconsidered. As health systems struggle to reach new thresholds of lower costs and higher quality, the health care workplace is demanding new professional skills and new configurations of staff including, in some cases, reductions in the numbers of practitioners needed. This will be an involved and creative undertaking that will tax the traditional mindset of the professional. As the system pushes for outcomes at the level of populations and large health care organizations, the professional community must develop the capacity to contribute meaningfully or run the risk of losing their autonomy and influence.

The second challenge will be to restructure the ways in which health care professionals are regulated, in order to promote responsive independence and insure that professional credentials fit with the goals of the emerging system. The Pew Commission has recently released a major report detailing its recommendations in this area,[1] but the three most important elements are: 1) public representation in the regulatory process; 2) testing for continuing competence; and 3) flexibility to practice in those domains in which one has in

fact demonstrated competence. The rules and regulations that govern health care practice are vestiges of the last century. They need to reflect the realities of the world as we enter the new century. To many health professionals the recommendations may appear to be one more effort to constrain their independence. On closer inspection, the Pew Commission hopes that theses priorities will be seen by tomorrow's health professional as a form of regulation that ensures the highest levels of public confidence and clinical autonomy. This will only occur by developing new ways of ensuring the public's safety.

Third the Pew Commission has tried to address the concern that professional numbers be sufficient to meet the needs of the public, yet not oversupplied in a way that produces excess costs or wastes scarce resources. In the past, professional education has expanded on its own accord, attempting to forecast the level of demand. It should be obvious that such efforts have not succeeded. In the future, health professional schools will need to attend themselves more closely to the needs of the emerging system. One way to do that would be to align themselves with particular care delivery systems, in order to develop a sense of the numbers of practitioners needed. This task should be one that actively involves professional associations, educational programs and the delivery system itself.

Finally, professional schools must lead the effort to realign training and education to be more consistent with the changing needs of the care delivery system. The Pew Commission's fourth and final report offers recommendations that affect the scope and training of all health professional groups, as well as a new set of competencies for the 21st Century. As in the past, the Pew Commission urges health professional faculty to review their current curriculum against these recommendations and competencies. In general, the recommendations encourage enlargement of the health professional's education to include a broader set of system, organizational and population skills. This change will not be an easy one for most health professional schools, but they are essential for effective practice in the future.

Recommendations for All Health Professional Groups (Chapter III)

RECOMMENDATION 1 Change professional training to meet the demands of the new health care system.

In spite of the dramatic changes affecting every aspect of health care, most of the nation's educational programs remain oriented to prepare individuals for yesterday's health care system. They have not assimilated the new values, techniques, and skill sets required to pursue a satisfying and thriving practice in the managed care world. Curricula for doctors, nurses, and allied health professionals must redirect their efforts to ensure that their graduates will be successful in the types of professional practice environments and organizations that are just emerging. To assist in this process the Pew Commission has revised the set of competencies that it developed in 1993 and now offers twenty-one competencies for successful practice in the twenty-first Century. The list of competencies immediately follows this section. The specific action steps for Recommendation One are:

- Professional school faculties and administration should evaluate their current course of study to determine whether or not they are adequately preparing students to meet the challenges set forth in the competencies.
- Professional associations should integrate the competencies into their accreditation and licensing processes, benchmarks for graduation, entry into professional practice and continuing competence.
- Students should assess the quality of educational programs based on how well they will prepare them to apply the competencies in their careers.
- Hospitals and other institutional providers should prefer partnerships with academic institutions that continuously revise their curricula to reflect changing market dynamics and that embody the competencies.

RECOMMENDATION 2 Ensure that the health profession workforce reflects the diversity of the nation's population.

The next generation of health professionals should represent the nation. Not only would renewed commitment to diversity be the fairest way to accommodate all potential medical practitioners, it would be in the best interest of those parts of the population that bear the greatest burdens of poor health. Students that come from medically underserved communities have demonstrated a much greater willingness to return to them to practice. By knowing the language and cultural mores of the population they serve, they offer a more complete and effective kind of care. A key challenge of the next century will be to apply our system's focus on achievement in the basic sciences to the widespread and equitable distribution of health care resources. One way to accomplish this is by attracting new types of students to the professions. Admissions standards should be established at a level that will ensure that the intellectual material needed to become a health professional can be mastered by the student. Such standards will rightly vary considerably across individual schools. Beyond that standard, admission should be established around the principle of representation and service. It is essential that the nation's health profession workforce represent the cultural diversity that is and will become an even more significant part of this society. This is not a quota borne out of a sense of equity or distribution of justice, but a principle that the best health care is delivered by those that fully understand a cultural tradition. To create such a workforce the following actions must be taken:

- Admissions policies in professional schools must supplement their academic standards for entry with other criteria for admission such as ethnicity, cross-cultural experience and commitment to community service.
- Universities and academic health centers should actively engage the broader K-12 educational system to provide early exposure to the sciences and the health professions to populations who are under-represented in those fields.

RECOMMENDATION 3 Require interdisciplinary competence in all health professionals.

This competency is listed among the twenty-one, but is so essential for the future that it is emphasized here. Today's best integrated health delivery systems are evolving toward a model of care in which interdisciplinary teams of providers manage the care of the sickest patients. This model, which involves physicians, nurses, and allied professionals, is proving its worth with both acutely and chronically ill patients. Resources are used in the most timely and efficient way; mistakes or duplication of services is avoided; and the expertise and instincts of a number of trained health practitioners are brought to bear in an environment that values brainstorming, consultation, and collaboration. This is not a value that has been inculcated in health professional training programs of the past. Medical and professional schools should fundamentally reassess their curricula to ensure that their programs embody and apply an interdisciplinary vision.

- Care delivery systems should work with local educational programs to describe and demonstrate how interdisciplinary skills are being incorporated into practice.
- Schools and faculties should target 25 percent of their current educational offerings that could more efficiently and effectively be offered in interdisciplinary settings.
- Students should seek their own opportunities to study or work in environments that expose them to interdisciplinary care as early as possible.

RECOMMENDATION 4 Continue to move education into ambulatory practice.

The health care system has traditionally trained doctors in hospital settings, while the health care system is moving health care out of the hospital. Students need to be exposed to ambulatory settings early in their training. This movement has been underway for some time, but there is a long way to go.

- Care delivery systems should audit their current commitments to education, develop ways of cost sharing and promote effective integration of education and practice.

- Schools and faculties should assess what has been done to date, identify barriers to further movement and develop partnerships with the care delivery systems to help enhance the quality and amount of education in ambulatory settings.

RECOMMENDATION 5 Encourage public service of all health professional students and graduates.

The nation and its health professionals will be best served when public service is a significant part of the typical path to professional practice. Educational institutions are the key to developing this value.

- Health professional programs should require a significant amount of work in community service settings as a requirement of graduation. This work should be integrated into the curriculum.
- Students should assist in the design and development of such programs.
- Communities and the health agencies that serve them should actively participate in the partnerships through which these service programs can be built.
- Existing programs of national service tied to debt forgiveness should be expanded and enlarged in order to incorporate more health professional graduates.
- Professional associations should actively incorporate the idea of public service into regulation and professional development activity.

Twenty-one Competencies for the Twenty-First Century (Chapter IV)

1. Embrace a personal ethic of social responsibility and service.
2. Exhibit ethical behavior in all professional activities.
3. Provide evidence-based, clinically competent care.
4. Incorporate the multiple determinants of health in clinical care.
5. Apply knowledge of the new sciences.
6. Demonstrate critical thinking, reflection, and problem-solving skills.
7. Understand the role of primary care.
8. Rigorously practice preventive health care.
9. Integrate population-based care and services into practice.
10. Improve access to health care for those with unmet health needs.
11. Practice relationship-centered care with individuals and families.
12. Provide culturally sensitive care to a diverse society.
13. Partner with communities in health care decisions.
14. Use communication and information technology effectively and appropriately.
15. Work in interdisciplinary teams.
16. Ensure care that balances individual, professional, system and societal needs.
17. Practice leadership.
18. Take responsibility for quality of care and health outcomes at all levels.
19. Contribute to continuous improvement of the health care system.
20. Advocate for public policy that promotes and protects the health of the public.
21. Continue to learn and help others learn.

Recommendations for the Professions (Chapter V)

A. RECOMMENDATIONS FOR ADVANCED PRACTICE NURSING

A1. Reorient advanced practice nursing education programs to prepare APNs for the changing situations and settings in which they are likely to practice.

- Prepare APNs to translate a core set of skills across institutions and settings, managing persons with health care problems regardless of their location.
- Expand the proportion of advanced-practice nurse training sites in ambulatory and long-term care settings favored by managed care systems.

A2. Regardless of payer source (HCFA or an all-payer pool), federal funding for graduate medical education should be made available to support the training of advanced-practice nurses and other non-physician providers in clinical settings.

- Pay funds directly to the clinical service site providing APN training and not to the educational programs that are responsible for planning education.
- Develop a mechanism to ensure that this funding does not create an unwarranted expansion of the total number of training positions for APNs.

A3. Develop standard guidelines for advanced nursing practice and reinforce them with curriculum guidelines, examination requirements, and accreditation regulations.

- Establish standards for interdependent vs. autonomous practice, prescriptive authority, hospital admitting privileges, civil liability, and other critical areas.
- Gather input from a broad set of health disciplines to ensure that guidelines reflect the diversity of APN practice in the delivery system.

A4. Emphasize the practice styles that are a critical part of advanced practice nursing, including the emphasis on preventive and health-promoting interventions and attention to psychosocial, environmental, and resource factors.

- Support research to examine the effect of these practice characteristics on outcomes in the populations served by emerging health care networks.
- Enhance the research training of APN students to ensure that future APNs have the background to evaluate and advocate for effective practice styles.

B. RECOMMENDATIONS FOR ALLIED HEALTH

B1. Create incentives for public and private employers of allied health services to support outcomes-based research on allied health practices.

- Combine funds from state, education, and industry partnerships.
- Ensure that the process is competitive and peer reviewed.

B2. Create partnerships of educators, employers, and workers to identify and standardize auxiliary health competencies that are learned on the job.

- Establish a core set of competencies that cut across the auxiliary occupations, such as knowledge of basic medical terminology, ability to communicate in a health care setting, and an understanding of health workplace safety.
- Build upon this core by delineating more specific guidelines for different auxiliary health occupations and tie these definitions to career ladders.

B3. Facilitate the continuous retraining of allied health professionals.

- Create links across different practice arenas within allied health.
- Create local education-health delivery partnerships for articulations and linkages.
- Connect continuous competencies with relicensing processes.

C. RECOMMENDATIONS FOR DENTISTRY

C1. Promote and develop opportunities for cooperation between dentistry and medicine that will integrate oral medicine into comprehensive patient management.

- Integrate the training of dental and medical students at the undergraduate and graduate levels and explore options for integrating dentistry as a medical specialty.

- Create required and optional clerkships for dental students in areas of medicine that are relevant to dental care, such as emergency medicine, pediatrics, and geriatrics.
- Ensure that physicians who are training to be generalists receive adequate exposure to issues in oral health and train them to work with dentists effectively.

C2. Redesign dental schools' curricula to focus on critical competencies for integrated care and support them with accreditation and licensing standards.

- Set explicit targets and time-tables for modernizing courses and eliminating marginally useful material in order to shift emphasis to clinical thinking and problem-solving skills.
- Redesign dental licensure examinations to increase the emphasis on disease and physiology and to support dental schools' orientation toward comprehensive care.

C3. Develop and expand the relationship between dentists and allied dental workers.

- Encourage the development of new roles for dental hygienists, assistants, and laboratory technicians in providing basic dental services under the supervision of dentists.
- Train dentists in the management and communication skills necessary for providing leadership in dental and health teams with multiple types of professionals.

D. RECOMMENDATIONS FOR MEDICINE

D1. Use government subsidies to create incentives for reducing specialist residency positions and maintaining adequate numbers of generalist residency positions.

- Require teaching hospitals receiving public reimbursement to maintain at least as many generalist residency positions as are currently available.
- Reimburse teaching hospitals for adding positions in generalist programs only if these increases are offset by reductions in specialty positions.

D2. Continue current public and private initiatives to encourage physicians to practice in underserved areas and explore new strategies to address this challenge.

- Expand programs such as the National Health Service Corps which partly subsidize medical students' debt in exchange for service in underserved areas.
- Encourage undergraduate and graduate medical education programs to include a mandatory service-oriented rotation in underserved communities.

D3. Expand current mechanisms for moving general internal medicine, family practice, psychiatry, gynecology, and pediatrics clinical clerkships to non-hospital sites.

- Distribute indirect medical education payments among teaching hospitals, non-hospital teaching sites, and affiliated academic institutions.
- Focus research on determining the most appropriate percentages, as well as mechanisms for estimating costs associated with education in non-hospital settings.

D4. Explore strategies for tracking medical students at an earlier stage into four basic fields: primary care, sub-specialty care, research, and administration.

- Develop a consensus among educational leaders about the core of knowledge and skills that are needed by all physicians regardless of practice area.
- Establish clearly-defined boundaries for educational tracks associated with the basic fields of primary care, sub-specialty care, research, and administration.
- Create elective opportunities within undergraduate programs for medical students to spend a minimum of six months to a year gaining on-site experience in one of these fields.

E. RECOMMENDATIONS FOR NURSING

E1. Adjust education programs to produce the numbers and types of nurses appropriate to local or regional demand, rather than institutional and political needs.

- Implement aggressive recruitment and retention efforts to increase the enrollment and graduation of under-represented minorities, especially at higher degree levels.
- Target high school and early college level students for entry into undergraduate nursing education programs in order to reverse the trend in workforce aging.

E2. Delineate the knowledge and outcome competencies appropriate for each level of nursing education in order to maximize efficiency, improve coordination and articulation of programs, and reduce professional conflict and public confusion.

- Continue to downsize or merge diploma programs with college or university-based programs, while increasing admissions to baccalaureate programs.
- Expand and strengthen existing career mobility programs to facilitate educational advancement for associate degree and diploma-credentialed RNs.

E3. Radically revamp the content and learning experiences in the nursing curriculum to produce graduates with the competencies needed for differentiated practice.

- Increase the proportion of learning experiences in ambulatory, long-term care, and community-based setting at all appropriate levels of nursing education.
- Refocus higher degree programs on group management skills, clinical management skills, technological capabilities, critical thinking, and professional judgment.

E4. Integrate the research, teaching, and practice enterprises of nursing education programs in order to further nursing's professional and practical goals.

- Recruit nurses with extensive practice experience, particularly in integrated systems of care, to teach in diploma/associate degree programs.
- Expand the opportunities for faculty in baccalaureate and higher degree nursing programs to participate in clinical research, and reward them for doing so.

F. RECOMMENDATIONS FOR PHARMACY

F1. Continue to orient pharmacy education to reflect pharmacists' changing practice roles and settings under managed care and in clinical drug therapy.

- Adjust curricula to provide students with the skills in population management, epidemiology, pharmacoeconomics, outcomes measurement, health services research, and health care organization that are demanded by emerging systems.

- Encourage pharmacy schools to become more active partners in residency training and expand training sites to more ambulatory and managed care settings.

F2. Embrace an interdisciplinary approach to health care delivery.

- Re-focus educational programs to prepare students in the team-building and management skills that will allow them to work smoothly with other providers.
- Foster collaboration with pharmacy technicians and other allied health workers and encourage them to contribute to patient care to their full capacity.

F3. Provide opportunities for re-training and continuing education for practitioners to develop skill sets for expanded clinical roles beyond dispensing pharmaceuticals.

- Continue to explore nontraditional, distance-learning techniques, including written materials, videotapes, interactive television, and the Internet.
- Take advantage of opportunities to provide greater exposure to managed care organizations and chain pharmacy settings in re-training programs.

G. RECOMMENDATIONS FOR PHYSICIAN ASSISTANTS

G1. Incorporate concepts including population-based care, accountability, outcomes information, professional interdependence, and linkages between health care delivery and finance into physician assistant education and training.

- Search for ways of adding concepts to existing course and clinical work in educational programs without extending the current length of PA education.
- Focus national leadership on developing accreditation standards that encourage PA training programs to incorporate appropriate principles in the curriculum.

G2. Federal funding for graduate medical education should be made available to support the training of physician assistants and advanced practice nurses in clinical settings.

- Pay funds directly to the clinical service site providing physician assistant training and not to the educational programs that are responsible for planning education.

- Develop a mechanism to ensure that this funding does not create an unwarranted expansion of the number of training sites for physician assistants.

G3. Affirm the physician/PA relationship as it was created and has existed, rather than re-defining it to give the PA a more isolated role from the physician.

- Project physician assistants into emerging manage care practice models in ways that maintain the traditional values and intent of physician/PA collaboration.
- Develop new models for expanded physician practice which effectively utilize physician assistants and other non-physician practitioners.

H. RECOMMENDATIONS FOR PUBLIC HEALTH

H1. Each state should undertake a broad assessment of its public health workforce in order to facilitate workforce planning and training.

- Using a standard taxonomy of professions and occupations, this assessment should target the multiple sectors in which essential services are delivered, to identify the type of service performed, the profession or occupation in the position, and the competencies necessary to perform the work effectively.
- Several entities in a state could lead or collaborate in such an assessment, including the state, public health or medical schools, consortia of local departments, or the community college system.

H2. Public health schools and departments should develop certification and continuing education programs to help public health providers upgrade and maintain their competence.

- These programs should be in the important knowledge and technical skill areas (such as epidemiology, social marketing, administration, environmental health) that can be delivered flexibly (such as distance learning) to workers in both the public and private sectors.
- Government, at both the federal and state level, should budget resources for the continuing education of the public health workforce.

H3. Public health curricula and training in both schools and individual programs should expose students to, and prepare them for, the multiple sectors in which public health services are delivered.

- Schools and programs should recruit, retain and value faculty with a broad set of experiences in various types of health care delivery settings.

H4. Public health departments, schools and professions should urge other professions and organizations in assessing and promoting the public's health.

- Schools and programs should develop educational and research programs that actively involve other professions and organizations that provide population-based services, including integrated delivery systems.
- Accreditors of health professions education (e.g. - Liaison Committee for Medical Education, National League for Nursing) should consider including public health courses and competencies in their accreditation requirements.

H5. Public health schools, programs and departments should focus some of their resources on training lay health workers and community residents to understand the mission of public health and equip them with the basic competence to accomplish this mission.

- Schools and programs should develop training programs that target those persons working in public health who do not have training and could benefit from focused certification programs.
- Private sector organizations involved in public health should also invest resources in training a competent workforce.

Public Policy Recommendations (Chapter VI)

Recommendations for ACCREDITATION

1. Educational institutions, programs and accreditors should recognize their shared responsibility for responding to the changing needs and demands of the public, employers, professional bodies and students.

- Establish broad competencies needed for practice through a collaborative approach among educators, professional organizations and employers and an on-going assessment of changing practice needs.
- Integrate the accreditation process into a larger system of program review, improvement and regulation. While some relationships exist among the various parts of this system (professional regulation, individual licensure and certification, organizational accreditation, peer review, state review, etc.), there appear to be cases of overlap and duplication of effort.

2. Educators and accreditors should work together to foster continuous assessment and improvement.

- Articulate accreditation in the context of current practice and the anticipated future directions.
- Actually commit to making improvement a part of the daily work of institutions. This would make accreditation more of a process than a series of burdensome external mandates.

3. The accreditation process should encourage creative methods and measures to enhance efficiency, minimize waste and duplication, and streamline assessment processes.

- Streamline the accreditation process to increase accountability and minimize duplication and waste.
- Restructure site visits as focused reviews, emphasizing opportunities for constructive consultation.

- Increase flexibility and responsiveness of the process by integrating contemporary technology and relying upon more electronic communication and other resource-conserving approaches.

4. A consistent "5+1 criteria" approach for accreditation should be adopted by all specialized and professional accrediting agencies, consisting of five common criteria and one profession-specific criterion.

- Base accreditation on the following areas:
- Connection of the community of practice and the public to prepare the workforce for the relevant community needs/assets;
- Appropriate, periodic and ongoing faculty development and evaluation;
- Assessment of the competencies and achievements of its students and graduates;
- An effective process of continuous self-assessment, planning and improvement; and
- Representation the public to ensure accountability and consumer choice.
- Each accrediting agency would create one additional criterion that would acknowledge the unique aspects of the profession being reviewed.

Regulatory Boards and Governance Structures

1. Congress should establish a national policy advisory body that will research, develop and publish national scopes of practice and continuing competency standards for state legislatures to implement.

2. States should require policy oversight and coordination for professional regulation at the state level. This could be accomplished by the creation of an oversight board composed of a majority of public members or it could become the expanded responsibility of an existing agency with oversight authority. This policy coordinating body should be responsible for general oversight of that state's health licensing boards

and for assuring the integration of professional regulation with other state consumer regulatory efforts (e.g. health facility and health plan regulation).

3. Individual professional boards in the states must be more accountable to the public by significantly increasing the representation of public, non-professional members. Public representation should be at least one-third of each professional board.

4. States should require professional boards to provide practice-relevant information about their licensees to the public in a clear and comprehensible manner. Legislators should also work to change laws that prohibit the disclosure of malpractice settlements and other relevant practice concerns to the public.

5. States should provide the resources necessary to adequately staff and equip all health professions boards to meet their responsibilities expeditiously, efficiently and effectively.

6. Congress should enact legislation that facilitates professional mobility and practice across state boundaries.

Scopes of Practice

7. The national policy advisory body recommended above should develop standards, including model legislative language, for uniform scopes of practice authority for the health professions. These standards and models would be based on a wide range of evidence regarding the competence of the professions to provide safe and effective health care.

8. States should enact and implement scopes of practice that are nationally uniform for each profession and based on the standards and models developed by the national policy advisory body.

9. Until national models for scopes of practice can be developed and adopted, states

should explore and develop mechanisms for existing professions to evolve their existing scopes of practice and for new professions (or previously unregulated professions) to emerge. In developing such mechanisms, states should be proactive and systematic about collecting data on health care practice. These mechanisms should include:

- Alternative dispute resolution processes to resolve scope of practice disputes between two or more professions;
- Procedures for demonstration projects to be safely conducted and data collected on the effectiveness, quality of care, and costs associated with a profession expanding its existing scope of practice; and
- Comprehensive legislative "sunrise" and "sunset" processes that ensure consumer protection while addressing the challenges of expanding existing professions' practice authority, and regulating currently unregulated healing disciplines.

Continuing Competence

10. States should require that their regulated health care practitioners demonstrate their competence in the knowledge, judgment, technical skills and interpersonal skills relevant to their jobs throughout their careers.

Recommendations for REFORMING FEDERAL GME POLICY

1. All-Payer Financing

An all-payer pool should be established to ensure that both public and private beneficiaries of medical education contribute to the subsidization of clinical education for physicians, APNs, and PAs. This pool should be financed via a per-capita assessment on health plan enrollees (managed care and fee-for-service, including self-funded plans) and contributions from Medicare and other federal programs that subsidize GME. Revenues from both public and private payers should be deposited into a trust fund dedicated exclusively to funding clinical education for physicians, APNs, and PAs.

- All entities providing clinical education would be eligible for all-payer payments (including consortia and children's hospitals).

- A uniform per-resident payment formula should be established under which the per-resident component of DME payments would vary among teaching hospitals in only a limited fashion by external factors such as regional variation in cost of living.

2. Number of Positions Funded

The Commission believes the BBA does not provide sufficient incentives to reduce the number of physicians trained in the U.S. to an appropriate level. Thus, the Pew Commission recommends that more stringent controls be established for allocation of funds from the all-payer pool.

- Set the number of all-payer funded residency positions at a level no greater than the number equivalent to 110 percent of the number of U.S. medical graduates (allopathic and osteopathic) in 1997, a reduction of 25 percent from the current number of federally subsidized first-year residency positions.
- The provisions of the BBA that cap the number of Medicare-funded positions at individual teaching hospitals should be applied to all-payer financing.

3. Eligibility for Funding

- Guarantee all-payer reimbursement for all U.S. medical graduates who have passed parts I and II of the U.S. Medical Licensure Examination or the Comprehensive Osteopathic Medical Licensing Examination and who are admitted to an accredited residency program.
- Develop a mechanism for allocating all-payer funding for a number of positions equivalent to the size of U.S. medical graduates plus 10 percent to subsidize the training of U.S. citizens and permanent residents educated in international medical schools. In developing this mechanism, policymakers must confront a major tradeoff between advancing educational principles and preserving institutions that have depended on IMGs to provide uncompensated care.

- Eliminate GME payments for IMG residents who are citizens of other nations but continue to permit them to complete GME in the U.S., provided their training is subsidized via foreign aid, their home governments, or private funds.
- With regard to non-citizen IMGs, the Commission reiterates its recommendation that U.S. immigration laws be tightened to ensure that foreign nationals return to their home countries upon completion of residency training.

4. Incentives for Training Physicians in Generalist Disciplines

Two policies are needed to enhance existing strategies aimed at ensuring that the U.S. has an adequate supply of generalist physicians.

- Require teaching institutions that receive all-payer GME payments to continue to maintain the number of generalist residency positions they made available in 1997.
- Provide DME payments only for residents completing minimum requirements for initial board eligibility.

5. Indirect Medical Education (IME) Payments

The provision of the BBA which phases in a reduction in the IME adjustment percentage from 7.7 to 5.5 percent over a five-year period and caps the number of residency positions and the ratio of residents to beds should be applied to disbursement of all-payer funding for IME. Indirect Medical Education expenses go to institutions to pay for higher acuity levels of patients seen and the complexity of care delivered. Eligibility for IME payments should be consistent with eligibility for DME payments. Two additional modifications in IME policy are needed.

- Create a separate mechanism for payment of IME that is independent of payments for inpatient hospital services. Establish a separate system of prospective payment for indirect expenses associated with medical education under which payments would be divided among teaching hospitals, affiliated academic institutions, and non-hospital training sites. Work should commence immediately to develop formulas for allocating IME to non-hospital sites.

- Base a significant proportion of IME payments to teaching hospitals on historical IME revenues rather than the current ratio of full-time equivalent residents to beds.

6. Preserving Access to Care for the Uninsured

Since its inception, the Pew Commission has advocated universal access to health insurance for all Americans. Expanding access to health insurance constitutes the most rational and appropriate approach to ensuring access to care. The Pew Commission is encouraged by recent incremental efforts to address this problem but recognizes that today many persons remain uninsured and that some of them, particularly those living in inner-city areas, depend on teaching hospitals for medical care. Recommendations for reform of federal GME policy must take the needs of this vulnerable population into account.

Developing GME reforms that do not compromise access to care for the poor is a formidable challenge but one from which the nation cannot shrink. For too long, concerns about institutions providing high levels of uncompensated care have posed a roadblock to major reform of GME policy. As the new millennium dawns, we must pursue strategies that address both sets of concerns in a rational and equitable manner.

- The Commission supports the provisions of the BBA that provide transition assistance to teaching hospitals that voluntarily reduce the number of residents they train.
- The Commission strongly recommends expansion of the National Health Service Corps' loan repayment program and modification of its eligibility criteria to facilitate participation by specialists where needed. This recommendation is an essential component of a comprehensive GME reform strategy, because it would provide a replacement workforce for communities that have depended on residents to deliver care to underserved populations.

7. Funding for Advanced Clinical Education of Nurse Practitioners and Physician Assistants

To promote a multi-disciplinary and flexible primary care workforce and ensure that APNs and PAs have adequate access to appropriate clinical training sites:

- Eliminate the Medicare subsidy for diploma nursing education programs.
- Create a new all-payer subsidy for clinical education of APNs and PAs.
- Cap number of APN and PA positions funded at the number of full-time equivalent students enrolled in 1997.

8. Federal Workforce Policy Commission

Finally, a new commission should be established and appropriated sufficient resources to track health care workforce trends and advise Congress, the President, and the U.S. Department of Health and Human Services regarding the all-payer pool and other health professions workforce policies. This new commission also should collect, analyze, and disseminate data about supply and demand for health professionals. The members should represent a broad cross-section of interested parties, including consumers, health professionals, health professions educators, and organizations involved in the financing and delivery of health care services. The commission should be a public-private partnership, in recognition of the contributions of private payers to the all-payer pool. This new commission is needed because no existing body is equipped to carry out this charge. Although Congress has directed the Medicare Payment Advisory Commission and the National Bipartisan Commission on Medicare to address Medicare GME policy, the mandates of these commissions are too broad to permit them to examine GME policy in depth. Existing workforce policy bodies, such as the Council on Graduate Medical Education are under-funded and focus too narrowly on a single profession.

Introduction

In its first report in 1991, The Pew Health Professions Commission asserted that "the education and training of health professionals is out of step with the evolving needs of the American people."[2] In the intervening eight years, the Pew Commission has endeavored to refine that statement through comprehensive study of how health professionals are trained and how our health care system is changing. It has also made dozens of specific recommendations for health professional schools, state and federal policymakers, and health professionals themselves. In this fourth and final report, the Pew Commission offers a synthesis of that analysis, culminating in twenty-one competencies that all health professionals should embrace and understand as we enter the 21st century.

The Pew Commission's goals and values remained constant through the course of its work. Its goals have been to make health professions and workforce issues "an essential part of the debate about health care change; create a set of competencies for successful health professional education and practice in the emerging health care system; and provide resources and services in the form of research policy analysis, technical assistance, advocacy, grants and programs to policy makers, institutional leaders and health professionals as they work to integrate this vision and these competencies into daily practice."[3]

The Pew Commission's values are centered on producing the most equitable, highest quality health care system possible. We have embraced the notion that universal access to basic health care services is not only a moral imperative, but the best basis for efficient health financing and delivery over the long run. At the same time, we have aimed at policies that would encourage the players in the health care system to use resources as efficiently as possible. Finally, we have urged changes that would produce socially desirable outcomes based on solid empirical evidence and that would foster continuous change and innovation in the way medical services are delivered.

The Pew Commission's first report, *Health America: Practitioners for 2005, An Agenda for Action for U.S. Health Professional Schools*, established the premise that reform of the health care professional system is central to crafting good health care policy for the nation. The second report, *Health Professions Education for the Future: Schools in Service to the Nation*,

reiterated the call for reform in the education and training of health professionals and added the need to combine this with "policies that address their availability, distribution and utilization."[4] The report outlined a list of "tensions" which explained how the system was evolving from one that focused on the treatment of illness in individual patients to one that emphasizes preventive care and maintaining the health of communities.[5] It also addressed the need for state governments and educational accrediting bodies to institute changes that would support the changing educational process.

Critical Challenges: Revitalizing the Health Professions for the Twenty-first Century, the Pew Commission's third report published in 1995, addressed the "emerging systems of integrated care that combine primary, specialty and hospital services."[6] The report noted that while the federal government had failed to provide leadership or planning for health care reform, there were nonetheless a number of instigators for change at work in the system. These included states that had experimented with a number of fiscal, legislative and licensing reforms, purchasers that were forming alliances with medical schools to provide primary care physicians, and last but not least, market forces that were at last attacking the high price of health care. That report predicted a number of changes in the health care system that would have direct impact on the health care labor force, including hospital closures, expansion of primary care in ambulatory and community settings and a surplus of physicians, nurses, and pharmacists. Through its recommendations, the most radical of which was closing 20 percent of U.S. medical schools, the report offered "a broad assessment of the current state of reforms across the health professions, specific examples of those reforms and an overall assessment of how far we have come in the process of overhauling the health care system in light of the principles which inform the Commission's work."[7]

This final report is organized in six sections. The first provides context for the Pew Commission's final recommendations through a brief analysis of today's shifting health care landscape. Part Two identifies nine trends, from rising costs to technological change, that will shape health professional practice in the coming years. The third section describes a series of recommendations that apply to all the health professional groups, while part four lays out the 21 competencies that all health professionals should embrace for practice in the 21st century.

Part five focuses more specifically on recommendations for the various health professions, while part six identifies public policy changes at the state and federal level that would support the changes called for in the rest of the document.

During its three phases of work, the Pew Commission, which is composed of leaders in health care education, care delivery and policy, has worked with dozens of experts in examining the forces that are shaping the nation's health care system. As with the earlier reports, this fourth and final report should be regarded as a strategic guide, not a fixed blueprint for changing schools, regulation or professional practice. As in the past, the Pew Commission recommends that each health professional faculty review its current curriculum in the context of these recommendations. In general, the recommendations encourage the enlargement the health professional's education to include a broader set of systems, organizational and population-based skills. These changes will not be easy for most health professional schools, but they are essential for effective practice in the future.

I A Shifting Health Care Landscape for Professional Practice

It is hard to remember when the health care system wasn't in a constant state of change, but between World War II and the late 1970s, the institutional and professional relationships that made up the U.S. health care system remained fairly stable. Care was delivered and organized by doctors and nurses through relatively small, locally-based, and generally non-profit organizations. A largely unrestricted fee-for-service insurance system generously financed a level of health care intervention and technological advances that became the envy of other nations.

But quality care came at a price. As the century neared its end, American health care had become the most expensive in the world. Powerful public and private efforts emerged to control costs and, in so doing, significantly altered the way health care is delivered and financed. Managed care evolved to put constant pressure on providers to restrain costs and control health care utilization. Providers grew more and more specialized, and managed care pushed doctors, nurses and ancillary service providers to reorganize their work and reallocate duties. For-profit corporations became a powerful new influence on the way hospitals and physician practices were operated. Today, the system is in constant state of almost revolutionary flux, with both rewards and liabilities for society at large. The system is becoming more efficient in its use of resources, but it has disenfranchised over 43 million people who do not have health insurance, public or private.

It is impossible to predict how this $1.1 trillion service industry will look in the next century. But based on certain patterns that are emerging in the dynamic new marketplace, it is possible to identify new approaches, new priorities and new ways of thinking that could guide the system to a more responsive and ethically sustainable future for health care professionals of all types. In the future, health care must respond to the following challenges:

1. Balancing the interests of the individual and society.

One of the most valuable aspects of the American health care system is its long-standing orientation to serving the needs of individual patients. The dominant ethic of medicine has dictated that providers should do all they can to help the individual in their care at

the moment. Doctors were said to be the patient's advocate. They were not trained or empowered to think about trade-offs or make arbitrary decisions that the cost of caring for individual was too much for society to bear. Much of the excellence of America's style of health care can be traced to the importance of the one-on-one relationship of the caregiver to the patient.

There is today, however, a dawning recognition that health care, like all other parts of our life, exists within a system of finite resources and competing needs. Providers, insurers and health policymakers are now learning how to best marry the values of the individually orientated system to a new outlook that embraces the health of the whole population. This transition will not be easy, because it involves limiting some of the prerogatives and choices that many consumers enjoy in today's system.

2. Introducing accountability to the system.

The high degree of autonomy and privacy granted to the doctor/patient relationship in the traditional American health care system has insulated much medical decision making from outside scrutiny. Today's emerging health care models offer more accountability at a number of levels. Purchasers of care, including the federal government, want to know what kind of value they're getting for their health care dollar. Managed care companies want to know which physicians have the best outcomes and which hospitals have the shortest lengths-of-stay and the fewest errors. The purchasers' expectations are conveyed at the local level in direct negotiation for health care services and, increasingly, at the national level through such aggregated quality measures as the National Committee for Quality Assurance's Health Plan Employer Data and Information Set (HEDIS). The plans themselves engage a wider range of sub-contracted relationships to meet these goals, which makes the set of accountable relationships even wider. Moreover, plans now understand that they exist in a competitive world and create their own performance standards for both internal benchmarking and external marketing. So far, the particular dimensions of these accountabilities has been somewhat narrow, for they focus excessively on cost and patient satisfaction, which is important,

but which isn't tied to any objective standard of quality medicine. Reliable measurements of health improvement are still in our future, and they will be adopted at an uneven pace across insurance markets.

3. Truly managed care.

"Managed care" has become the by-word for all that is wrong with today's health care system, and that is unfortunate. The Pew Commission understands managed care to be *those processes that work to rationalize the use of health care resources at the lowest possible cost and the highest possible quality*. At their worst, such tools have been used to limit care and increase profit. But the techniques of managed care can be used to improve quality, expand access and enhance population health. The first generation of managed care has been focused on holding or reducing the costs of care by managing or limiting demand or reducing the fees paid to providers. There have been only limited efforts at actively improving the quality or reengineering the processes for producing care. Increasingly, however, health professionals are being asked to participate in the development of practice protocols and other methodologies that will make care more coordinated across the continuum. In the future, systems of managed care will have to demonstrate that they can lower costs and improve quality through improved care management tools. As this occurs, the ways in which individual providers carry out their work will increasingly become of interest to a much broader networks of purchasers and plans.

4. Making consolidation work.

In response to the growing economic leverage of managed care, health care providers of all kinds have been consolidating since the 1980s. Physicians have joined group practices, which have in turn sold to integrated delivery systems or physician practice management corporations. Hospitals have merged into regional delivery systems that control acute services as well as primary care and ancillary services. Throughout the industry, players of all kinds have come to believe that without adequate size, long-term survival cannot be assured.

It has been hoped that this consolidation could help the fragmented health care system evolve into one that coordinated care across providers and across populations more effectively. These hopes have been borne out in only a handful of particularly well-run systems around the country. More often, integration affects a fairly narrow range of activities such as the provision of specialty services. Myriad models are being tried, and many will fail in the marketplace as the most effective approaches are worked out. The notion of integration will continue to evolve for many years to come.

5. Responding to the demands of an emerging health care market.

Perhaps the most significant and overarching shift in health care is its ongoing reorientation from a system driven and dominated by suppliers to one that meets the demands and serves the needs of purchasers and consumers. Market forces are reorienting health care away from a professional and non-profit community based undertaking to one more deeply rooted in the contemporary culture of finance and big business. It is important to note that most health care delivery organizations remain in the public, not-for-profit or professional domain, but their benchmarks for successful performance are determined increasingly by the publicly traded sector. There are at least four key constituencies that now inform and shape the emergent health care market. They are the purchasers of care, insurance companies, providers and individual consumers.

Purchasers: Long disorganized, both private and public purchasers have awakened over the past decade to a new awareness of how health care works and their power in the system. Private purchasers are defined as employers that purchase care for their employees and individuals who purchase care for them. Medicaid and Medicare are the primary public purchasers. By asserting their power through public and private purchasing coalitions, these purchasers have effectively limited rate increases[8] and have established new performance expectations for health care plans and providers in terms of information reporting, quality of outcomes and patient/consumer satisfaction.[9]

Insurers: The second development that can be distinguished in market driven managed care is the transformation of traditional fee-for-service insurance companies into managed care organizations. In the market, these plans are succeeding by expanding market share by growth or acquisition, delivering a service that is valued by the consumer (both corporate purchaser and the individual consumer), and providing its contracted services with inputs that are efficient when measured both by cost and effectiveness. Health plans have become the visible agents of managed care and the emergent market interests of the health care system.

Providers: Because hospitals and physicians exist in excess capacity to overall system needs, they are now vulnerable to external dictates of price for their services and accountability for quality. As purchasers and plans have organized themselves in a way to make these demands, providers find themselves motivated to organize themselves in response. These organizations are assembled in two ways: horizontally, with consolidation across a region, such as Columbia/HCA; or vertically, as hospitals join with physician groups, home health companies, and pharmacies to integrate the delivery of care in a region. Some systems have pursued both vertical and horizontal strategies simultaneously, with mixed results. To add a level of complexity, some systems have even vertically integrated services to include the insurance function as well. And in some cases, purchasers of care such as Deere Company not only insure their own workers and organize provider system to deliver care, but sell these services to other corporations.

Individual Consumers: In some states and systems, the consumer has benefited from the movement to managed systems of care. Some advantages are a broader range of options, better information by which to make their selection, lower costs and higher standards of quality. However, in other markets, the movement to managed care has meant fewer choices, less generous benefits and little reduction in costs. Without effective public regulation of the movement at the state and federal level, the experiences of consumers will likely remain mixed. One element that remains elusive is

the passage of a patient care bill of rights law, at either the state or federal level, to protect consumers and encourage market driven innovation.

Table 1: Managed Care Enrollment by Insurance Type

Type of Insurance	Percentage in Managed Care
Commercial	73[10]
Medicaid	40.1[11]
Medicare	14.0[12]

As the market grows in strength, it drives the movement to managed systems of care at a faster rate. Estimates for the percentage of enrolled populations in some type of managed care program are given in Table 1. Additionally, it has been predicted that most Medicaid enrollees will be in managed care plans by the end of the century. As Medicare continues to put pressure on increases in federal spending, there will also be continuing efforts to move more of the senior population into managed systems of care.[13]

Although the movement to managed care is a given, the organizational structure and financing arrangements characterizing managed care will continue to evolve. Five years ago, the dominant type of managed care was the not-for-profit staff or group model HMO. This approach integrates the ambulatory physician, hospital, home health and insurance functions into a single organization that is capable of managing the comprehensive care needs of individuals over time. This approach to insuring and providing care was competitive during the fee-for-service era. But consumers and purchasers decided that such arrangements restricted choice of physician, and “open panel” HMOs and point-of-service plans, in which members could go out of the network for an additional fee, have come to dominate the managed care marketplace.

The most dynamic and now largest part of managed care is the for-profit carrier or networked HMO.[14] This arrangement for the management of care owns little of the actual care delivery capacity. Rather, the HMO contracts with several large physician groups and hospital organizations to provide the services needed by the enrolled population. While the dominant

form of this type of managed care is organized by health plans that have evolved from insurance companies, there is nothing preventing provider groups from organizing in such a fashion as to be the manager of the enrolled population. This organizational form of managed care has become competitive by its ability to purchase inputs (i.e. physician services and hospital bed days) in a market that is seriously oversupplied and willing to dramatically reduce fees. Moreover, the open-ended quality of a networked arrangement offers the individual consumer more apparent choices of providers when selecting primary care physicians and specialists.

These health care developments indicate the beginning of an era in which there will be greater rewards and more encouragement for experimentation and innovation in ways to balance technological innovation, high quality and low cost. This will create new opportunities for those professions and processes that can in fact lower costs, enhance quality or improve the satisfaction of the patient as a consumer. Quality measures will vary in value across systems, but they will be the standards by which professional contributions are measured. Health professionals as individuals or in groups can participate in this emerging system by understanding the dynamics of the new system and making appropriate changes in how they are educated, regulated, and organized for practice. The Pew Health Professions Commission has concerned itself with understanding the sea of changes that are occurring in health care and the impact on health professionals. The recommendations that comprise the bulk of this report should offer professionals and their leaders beacons by which to navigate these stormy waters.

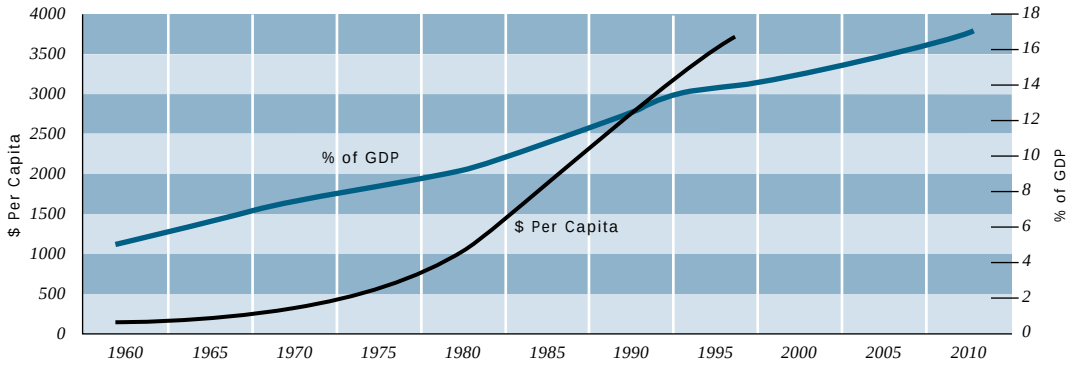
II Nine Trends That Will Shape Health Care and Professional Practice

Health care practitioners have often suffered by resisting change in the health care system. Today, caregivers can only thrive by embracing and exerting influence over that change. Educators and professional leaders must come to some understanding of this changing world and redirect education, training and life-long learning in a way that prepares practitioners for the next century. The following nine trends are, in the opinion of the Pew Health Professions Commission, the factors that will play a major role in the future of health care in the United States.

Trend #1 — CONTINUED PRESSURE ON COSTS

As seen in Figure 1, the nation's aggregate health care expenditures rose rapidly during the three decades beginning in 1960. It is generally agreed that this growth came about through a confluence of forces, including federal financing for the elderly and uninsured, new health care technologies, the high cost of labor, and a payment system that had few, if any, incentives for cost control. As Figure 2 indicates, these dynamics left the US with the most expensive health care system in the world.

We now know that managed care, supported by private and public purchasers in earnest during the 1980s, finally did have a chilling effect on health care inflation. Between 1993 and 1997 health care spending grew no faster than the nation's Gross Domestic Product.[15] How long this can be sustained is an issue of hot debate. The Congressional Budget Office and other researchers believe that health care costs will soon rise at a rate slightly above the rate of inflation,[16, 17] and there is new evidence that



Source: Health Care Financing Administration, Office of the Actuary, National Health Statistics Group and *Health Affairs*, 5: 1998, p. 129. (NOTE: projected)

]Figure 1

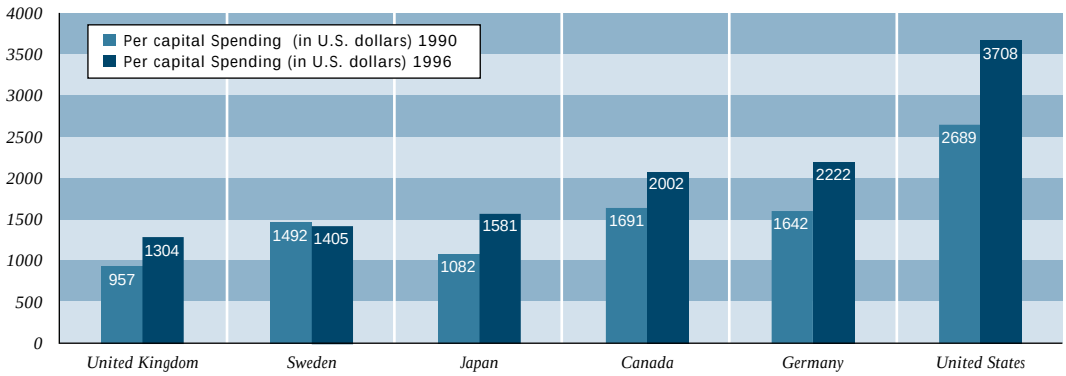
Trends in U.S. Health Expenditures 1960–1995

(In constant 1982 dollars. Personal health care expenditure fixed-weight price index used to deflate per capita expenditures)

Figure 2

Per Capita Spending in US and Select Other Countries

Purchasing Power Parity assumption relied upon to adjust foreign currency values into U.S. dollars



Source: Anderson, G; In Search of Values: An International Comparison of Cost, Access and Outcomes *Health Afffairs*, 16: 1997, p. 164

health plans are being forced to raise their premium rates. Recent projections by the Health Care Finance Administration point to an even more dramatic increase in the pressures to increase cost.[18]

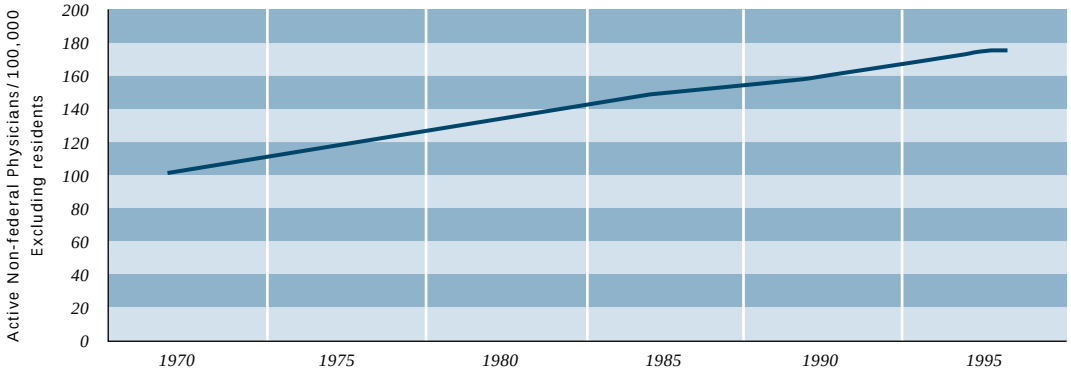
The key question is: At what rate will health sector costs grow in the next decade? Will this recent trend of low growth continue, or will there be a return to the trend of the previous 30 years? With the major payers of health care – employers and government – apparently unwilling to accept any increases in their budgets for health care, the future promises even greater cost pressures, and health providers will feel it most acutely. Most of the reduction in costs that have occurred in the past five years have come about as managed care companies reduced professional fees and rates paid to hospitals for services and gently limited or managed the demand for care. Much of this "easy" cost cutting has gone as far as possible. Providers are fighting further reductions in compensation as best they can, and consumers are demanding wider choice of providers than the closed panel HMO offers. Reducing costs further will mean even more fundamental realignment in the health care system. Historically unpopular choices such as rationing of care through public prioritization of services, government control of the distribution of health care resources, and fixed health care budgets will likely be considered. While there has been considerable rhetoric about the reengineering of the health care production process and the economic benefits to be gained by deploying more population orientated systems, there has been neither the time nor the technical competence to fully benefit from such proposals.

Health care has been and will remain a costly and complex undertaking. Over the next twenty years, institutions and professionals will prosper as they understand this reality and design ways to offer services that can maintain or, perhaps, improve quality and lower costs. This is a new role for the health care professional and one that will cause discomfort if practitioners do not play a leadership role in the process. Professionals should understand this task not as limiting individual access but as using resources in a more socially appropriate manner.

Trend #2 — AN OVERSUPPLY OF RESOURCES

As the U.S. health system expanded, it produced an abundance of productive resources, including health care professionals and workers, technology, hospitals. This expansion was sparked by cost-plus reimbursement schemes and the ability of providers to generate demand for their services. This dynamic has created a supply-driven resource market with few competitive barriers to entry. Finally, in the 1990s, market forces have begun to match the supply of health care resources with what people are willing to pay for, market by market. But the process has only begun and may take several decades, because communities resist the closure of hospitals and doctors resist efforts to reduce their numbers or their income.

Providers: As illustrated in Figure 3, the number of physicians per 100,000 capita has continuously risen over the past thirty years. This trend will only continue, as the number of physicians in training is significantly higher than the number of physicians retiring.

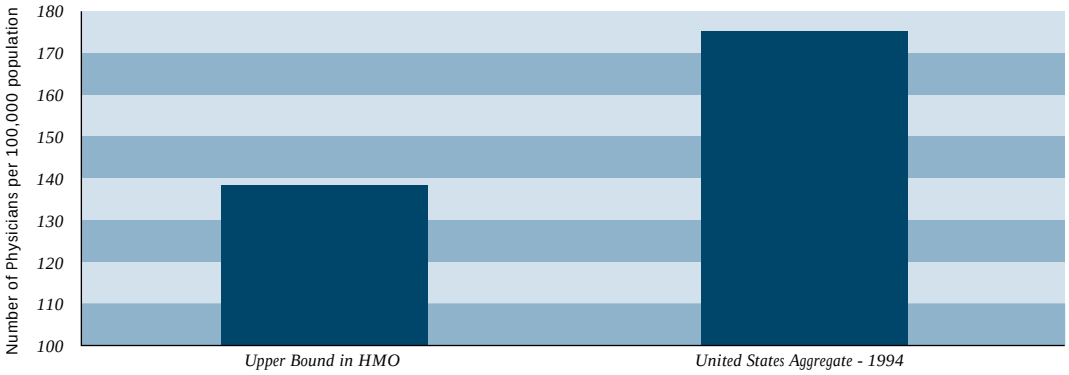


Source: US Census Bureau. *Statistical Abstract of the United States*, 1996.

Figure 3
Active Non-Federal Physicians per 100,000 population in U.S.

Figure 4

HMO Physician Usage Compared to Current Supply



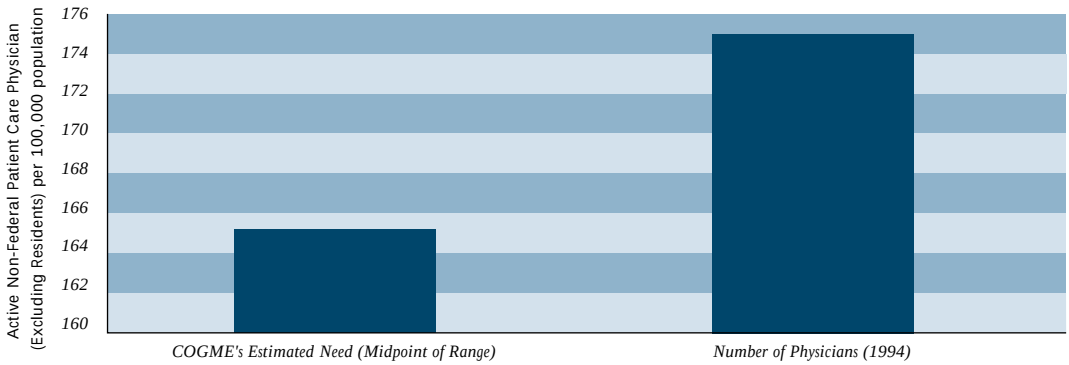
Source: *Health Affairs*, Summer 1995, p. 134.

Figures 4 and 5 compare the current supply of physicians to the number of physicians in managed care plans and the estimated need as outlined by the Council on Graduate Medical Education (COGME). Nurse practitioners and physicians assistants, who can provide much of the care traditionally provided by physicians, have also increased significantly in number. This growth means even greater oversupply of physicians and a growing oversupply of non-physician providers as well.

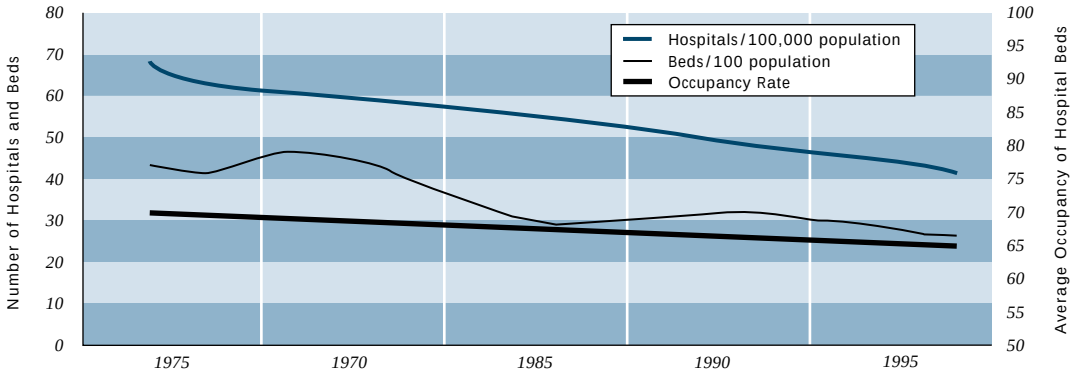
Hospitals: In the last three decades, better health care techniques and the economic pressure of managed care have dramatically reduced the frequency with which patients are admitted to the hospital and the length of time they stay there when they are admitted. As Figure 6 illustrates, the number of hospitals and hospital beds has fallen steadily since 1975, but not nearly as fast as the demand for hospital services. This has resulted in a continued decline in hospital occupancy rates. Some estimates place the supply of hospital beds in the US at 40 percent beyond what is needed. The consolidation of hospitals into larger systems has been

Figure 5

Supply of Physicians Greater then Need as Estimated by COGME



Source: Council on Graduate Medical Education (COGME). *Eighth Report: Patient Care Physician Supply and Requirements: Testing COGME Recommendations.* Washington, DC: Government Printing Office, July 1996.



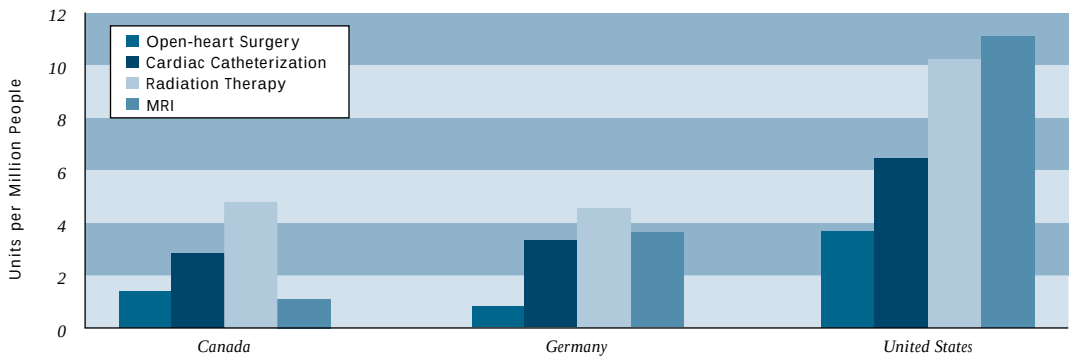
Source: US Census Bureau. *Statistical Abstract of the United States*, 1996 Edition.

Figure 6
Decline in the US Hospital Occupancy Rate

significant, but it has produced few hospital closures. As this downward pressure on occupancy and cost continues, these systems will have to confront the inevitability of closing more hospitals, resulting in slackening demand for professionals.

Technology: The purchase and use of medical technology contributes significantly to the annual increase in health care spending. Comparisons with other industrialized nations points to either a considerable oversupply in the US or inadequacies abroad. (Figure 7) Undoubtedly some technologies can be essential to improving the quality of care at lower costs, but only through judicious use based on the latest scientific evidence, not the barely restrained utilization of the past.

Beyond costs, excess capacity also affects safety and quality. In Pennsylvania, for example, 15 percent of the state's cardiac catheterization labs conducted less than 300 procedures a year, the minimum set by the Inter-society Commission on Heart Disease as a benchmark to ensure proficiency of service.[19] In 1994, the average lithotripsy facility



Source: Rublee, D. Datawatch: Medical Technologies in Canada, Germany and the US, *Health Affairs*, Fall 1994.

Figure 7
Availability of Selected Technologies (1992–93)

conducted 489 procedures per year, less than half what the state mandated as the minimum acceptable level of utilization.[20] Despite repeated calls to action, the health care system continues to be burdened by this excess capacity, which prevents the redistribution of increasingly limited resources to other areas such as preventive health.

One of the great frustrations with the supply of health care resources is that they are not distributed evenly across the nation. Much of the oversupply is in large urban and suburban areas. Even with high levels of insurance and capacity to pay for services, rural America still struggles to provide physical access to even the most basic care.

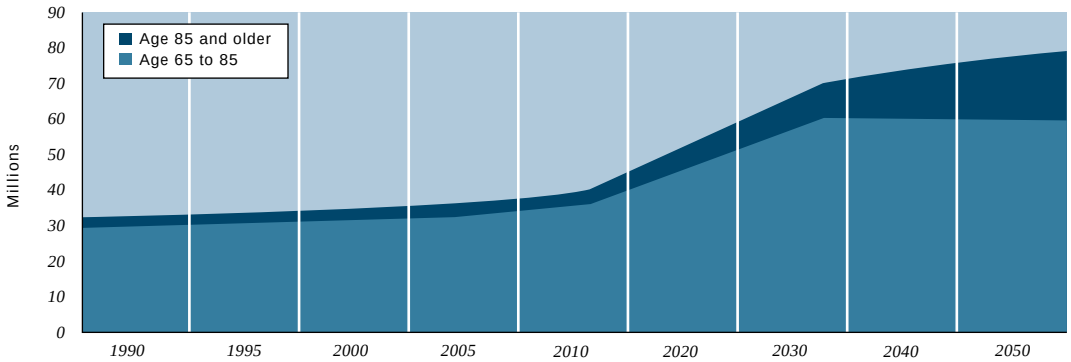
Trend #3 — AN AGING POPULATION

The elderly consume the most health care resources, and over the next fifty years, the number of seniors making demands on the health care system is going to skyrocket. In 2006, the first Baby Boomers will turn 65. In the 20 years that follow, the number of seniors will increase by nearly 80 percent. Currently, 13 percent of the total population is over age 65. By the year 2030, roughly 20 percent of the U.S. population will be 65 or older. [21] (Figure 8)

How will the nation deal with this dramatic and costly challenge? One scenario is a straight-line projection of the current pattern of health care consumption. The elderly are more likely to be afflicted with chronic disorders and have a greater incidence of mental and physical disability. So even as the population increases, the proportion of the population with these disorders will grow. This population shift will therefore increase the country's burden of disease. For example, the prevalence of arthritis, the most common disabling disease, is predicted to increase from 40 million currently to 60 million by the year 2020.[22]

Figure 8

U.S. Population of Persons Age 65 and Older: 1990 to 2050



Source: US Census Bureau. *Statistical Abstract of the United States*, 1996.

The number of elderly in need of long-term care will rise from 7.3 million in 1994 to 14 million in 2020, and the subset needing institutionalized nursing home care will more than double during that same period.[23] If we assume that these conditions will be manifest in the older populations in the same way as today and treated in the same patterns as today, then the nation faces an enormous growth in the size of health care expenditures.

Another approach would represent a dramatic change from the current pattern of consumption and resource utilization. In this scenario, the benefits of preventive care and case management, healthy life styles and environments, the rewards of bio-medical discoveries, and a radically different notion about resource use at the end of life could combine to create less resource-intensive health care but more fulfilling lives for people as they age. This will mean changes in the public's understanding of how resources are used and a different environment for political decisions about the rationing of the resources allocated to care.

Trend #4 - INFORMATION TECHNOLOGY

Health care, at its heart, is an information-based undertaking. Until recently, the knowledge that underlies medical technique has been the exclusive domain of licensed professionals. This monopoly is eroding, as new information and communication technologies become available to people from all walks of life. We are experiencing a great democratization of all forms of specialized information. The chief avenue of this information is the Internet. As of 1997, 35 percent of US households owned a computer, approximately 25 million Americans used the Internet weekly, and some web site could receive 65 million "hits" in a day.[24, 25, 26, 27] There are web sites that provide information on over three hundred different diseases. It is becoming increasingly common for patients to enter a clinician's office armed with a significant amount of knowledge about their disease state and their various treatment choices.[28]

There are, of course, barriers to the greater use of the information technology. Consumers and practitioners often find it difficult to find what they need amid the vast and confusing infor-mation available on the Internet. Much of that information is unreliable and not patient-specific.[29] Despite these complications, more and more patients will use high-tech resources to obtain information, and an even larger percentage of care will happen outside the clinic or hospital.

The successful practitioner of the next century will need to master information technologies in order to effectively manage the care of their patients. As the microscope allowed practitioners in an earlier era to see the microbial agents of infection, the computer allows today's generation to aggregate data about populations and understand broader patterns of health and illness. But the computer will also change the patient. As patients arrive with better and more information, health care professionals may find themselves increasingly in the role of counselor and consultant.

Trend #5 — ADVANCES IN THE TREATMENT OF DISEASE

Though expensive, technological advances have helped define 20th century medicine. The great leaps forward in health care attributable to technology include: radiation and chemotherapy to fight cancer, imaging technology that allows us to see fine detail inside the body, and transplantation of a variety of organs. The future looks equally bright with the potential of even better imaging technologies, minimally invasive surgery, and the use of micro-machines that travel inside the body via blood vessels. Payers, increasingly sensitive to the costs of new and perhaps unproven medical advances, are looking for new and better ways to assess new technologies. Highlighted below are two new advances that will likely play an important role in the future health care system.

Improved drug design. The cost from beginning to end of introducing a new drug has been estimated at over $300 million.[30] Pharmaceutical companies continue to invest in new drugs because the potential rewards are so large; sales of medical drugs worldwide total $300 billion a year. Historically, drug development was a hit-or-miss process. Typically 10,000 compounds are rejected for every one that completes development.[31] Recent advances, however, allow for a more targeted selection of new compounds for investigation, thereby reducing cost and development time, and increasing the efficacy of each new drug. As these new methods are introduced and improved, the number of new drugs entering the market will quickly accelerate and drugs will be available for previously untreatable diseases.

Genetic testing and gene therapy. In the 1990s, scientists have capped off a century of genetic research by identifying the specific genes that cause some of our most debilitating diseases, including Huntington disease, breast cancer and Alzheimer's. To date, clinical tests have been developed that can identify the genes for almost 500 human genetic disorders.[32] Fueling much of this work is the Human Genome Project, an ambitious program to identify and map every gene in the human DNA. Gene therapy takes the next step by introducing new genes into an individual's cells to cure an ailment. If successful, gene therapy will revolutionize medical treatment, offering for the first time a cure for many chronic diseases and cancers.

Now more than ever, technology must be used judiciously. American physicians have been trained in an ethos that wants to employ whatever is available, regardless of cost. But in the future, caregivers will have to collaborate with managed care companies, academic medical centers, and each other to develop practice protocols for new technologies that balance costs and benefits.

Trend #6 — IMPROVING QUALITY

Despite its reputation for high quality, the health care system suffers from an alarming rate of errors and unnecessary care.[33] Efforts by purchasers, managed care plans, consumer groups and others to track quality in the health care system have been of limited efficacy in documenting and rectifying these problems. Various public and private entities have mandated the release of various kinds of patient encounter data, resource data, and outcomes data. But so far, those data are inconsistent, unreliable, and more focused on measuring whether the systems of care are in place rather than whether they work.[34] Structural measurements encompass issues such as provider qualifications, availability of specialists, and hospital services. Process measures include use of preventive health treatments such as immunizations, numbers of referrals, and compliance with treatment protocols. Today, bolstered by advances in information management, health plans are beginning to collect results that reflect improvements in a patient's or a population's health. Since 1997, the Joint Commission on the Accreditation of Healthcare Organizations has required that hospitals use computerized systems to monitor a variety of outcome measures in order to be accredited.[35]

When purchasers are able to see documented differences in quality among a variety of health plans or providers, they respond. After IBM ranked the health care plans available to its employees, there was a 50 percent fall in the number of employees entering the lower ranked plans.[36]

Continuous Quality Improvement (CQI) has been a part of health care organization management for years, but it has been focused more on the back office than the front lines of care. In the future, electronic medical records, computerized decision support, and other advances in information technology will allow for a new kind of CQI that affects the entire process of care. The Progressive Policy Institute declared that CQI would allow "health professionals to record their actions, track the results, evaluate their performance, and incorporate the lessons learned back into their everyday practice."[37] Recent articles report that CQI can encourage all the members of a health care system to constantly improve care — leading to more satisfied staff and patients.[38] Ideally, these quality systems will lead to the gradual elimination of ineffective clinical practices and therefore reduced health care costs while improving health for consumers.

Public and consumer demands for quality measures and information will change the accountability structures of professional practice. Professional organizations should aggressively lead the inevitable movement to such standards. Practitioners should be trained in a manner that welcomes the discipline of continuous improvement of quality.

Trend #7 — CHANGING ROLE OF THE HEALTH CARE CONSUMER

With the rise of generous, fee-for-service health care coverage in the 1950s and 1960s, consumers were often divorced from any sense of the cost of the care they were using. This was accompanied by the pervasive, but false, assumption that one health care provider was about as good as another. Today, confronted with data showing stark differences among providers, and with out-of-pocket costs rising rapidly, Americans are learning how to apply all they know about being a smart consumer to health care. Likewise, the system is learning how to accommodate these savvy consumers, where it once took patients for granted.

Those years of passive consumption of care also masked the impact that personal choices have on the overall health status of the nation. Individual decisions about sexual behavior, tobacco use, alcohol consumption, diet, and exercise create most of the disease burden experienced by the nation. Without informed and responsive consumers, few innovative approaches to health care have much of a chance to lower costs or improve health status.

As the health care system changes, the consumer will be asked to play a more active role. First, responsibility and accountability for life decisions and health care will be, in part, pushed back to individuals and families. As better and more detailed information becomes available, consumers will also be asked to make better-informed decisions about providers of care. A part of this decision making must include factors of cost and resource utilization.[39]

Consumerism is being bolstered by advances in quality measurement and information technology. Patients can now compare health plans and providers across a range of criteria. For example, the Minneapolis-based Health Partners computer choice system has free online information about every clinic (hours, which specialists and hospitals are used for referrals) and every provider (educational and professional credentials, personal statement, photograph) in the network. It even provides information on rates of re-hospitalization following operations, listed by surgeon. Maryland and other states now allow consumer access to a database on provider malpractice suits, and New York State has passed legislation requiring health plans to give information on the role of the primary care physician, any out-of-network restrictions, incentive structures, and the right to appeal decisions.

Younger generations are more likely to be comfortable in this new role as an empowered patient. In an *USA Today* survey 81 percent of Americans aged 18-34 said they would like "more information" so they feel more confident about their medical care decisions. This was true of only 57 percent of those polled who were 65 and older.[40]

The patient/consumer/citizen is empowering him/herself in today's health care system. The health professional of the future must be prepared to understand this vital role, develop skills to help change individual attitudes and alter some of the traditional relationships that may have disenfranchised the patient.

Trend #8 — DISPARITIES IN THE POPULATION

The improvements being realized through technological progress, managed care, and intense consumerism are unfortunately not being enjoyed equally by all. Just as we are gaining a better understanding of the social and economic determinants of health, health care is increasingly available only to the employed and the wealthy. The clearest evidence of such a disparity is the growing number of uninsured. The number of uninsured stood at 40 million in 1995 and is growing by about 1 million people each year. It has been projected that one in five Americans under the age of 65 will be uninsured in 2005.[41] Contrary to a common belief, 60 percent of the uninsured are employed.[42] Despite spending significantly more on health care per capita than other countries, the US remains the only developed nation in the world that does not guarantee access to basic medical care for all its citizens.

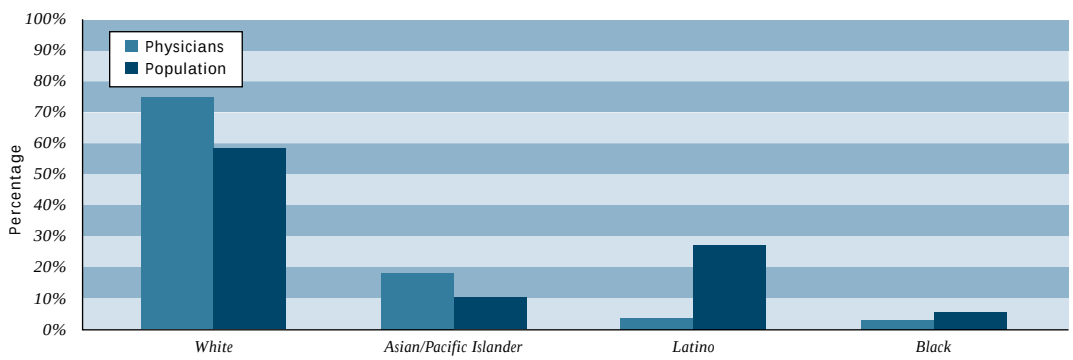
Like health services, the information technology so critical to improving the status of the patient in today's health care system is also generally more available to the affluent and educated.[43] The future could see the creation of two distinct groups of patients: the wealthy and computer literate, and the poor and information disabled.[44]

Further disparities can be see in the demographics, especially the racial and gender composition, of the provider population versus the patient population. Figure 9 illustrates this racial disparities between providers and patients in California.

Since similar disparities exist among providers in training, this gap will grow as the country becomes more diverse, with difficult implications for minority populations. Minority physicians are more likely to serve patients and communities of their own ethnic background.[45] Thus, we see a relative under-supply of providers in Latino and African American communities.

Figure 9

Disparity in Race between Physicians and Patients in California



Source: Coffman, J; Young, J; Vranizan, K; Blick, N; Grumbach, K; *California Needs Better Medicine*, UCSF Center for the Health Professions/California Primary Care Consortium, 1997.

Research has found that income disparity between rich and poor is the most powerful predictor of a nation's health as measured by life expectancy.[46] The United States, for example, enjoys a high average per capita income and the highest per capita health care expenditures in the world, but it ranks relatively low among industrialized nations in its infant mortality rate and life expectancy. As the income gap between rich and poor continues to increase, the overall health of the nation will likely worsen. Rural and inner city America remains removed from the rich resource base offered by hospitals and other providers.

Health professionals who enter practice in the next century will be confronted by these great disparities of resources. If they ignore this defining reality, they will be increasingly frustrated with their growing inability to bridge the gap in well being between the haves and have-nots in our society. They must be adequately equipped with an understanding of this reality and the skills as professionals to move organizations, systems and policies toward strategies that can change the reality.

Trend #9 — BROADENING THE DEFINITION OF HEALTH

Our health care system tends to focus its resources on treating the ill, rather than on preventing healthy people from become ill. Some have said what the system does is "sickness care" rather than health care. Only three percent of the nation's health care budget goes to public health initiatives,[47] even though the underlying causes of approximately half of all premature deaths in the United States are preventable. Smoking alone is responsible for approximately 20 percent of all premature deaths.[48]

In recent years, the managed care industry has taken small but important steps toward a more population-based approach to health management. Many of the quality measures applied to health providers and health plans currently track the prevalence and effectiveness of preventive care. These include rates of immunization, mammograms, prenatal care and colonoscopy. As providers and plans manage larger groups under capitation, and as our aging population presents with more chronic illness, we will see a greater emphasis on the prevention and management of disease.

Consumers are becoming more interested in and more knowledgeable about health maintenance and promotion. Evidence the widespread use of "alternative" or "complementary" medicine including relaxation therapy, acupuncture, and herbal medicine. These disciplines share an emphasis on spiritual health and mind-body links. One in three Americans received some form of alternative care in 1990 with total costs of $13.7 billion dollars, three quarters of which was paid for out-of-pocket.[49]

The medical establishment has expressed skepticism about the efficacy of many of these techniques, but recent waves of research is having success in distinguishing what works from what doesn't. We will see expanded efforts to integrate innovative therapies into clinical care, because they are often less costly than invasive alternatives. As this trend expands our definition of health and health care, health professionals should be prepared to understand and incorporate this more holistic perspective into the way they carry out their work.

III Recommendations for All Health Professional Groups

While each professional group in the health care system – from doctors, to nurse practitioners, to dental hygienists – faces unique challenges in the changing health care system, the recommendations described in this section cross professional boundaries. They urge certain broad-based, strategic redirections that touch all aspects of professionalism and professional training in health care. The past decade has witnessed many changes that reflect these five recommendations, or at least the philosophy behind them. Much remains to be accomplished, however. Each recommendation is followed by highly specific changes that specific parties and players should make, not because a public policy tells them so or because an economic incentive is designed to do so, but because they are the right thing to do.

RECOMMENDATION 1 Change professional training to meet the demands of the new health care system.

In spite of the dramatic changes affecting every aspect of health care, most of the nation's educational programs remain oriented to prepare individuals for yesterday's health care system. They have not assimilated the new values, techniques, and skill sets required to pursue a satisfying and thriving practice in the managed care world. Curricula for doctors, nurses, and allied health professionals must redirect their efforts to ensure that their graduates will be successful in the types of professional practice environments and organizations that are just emerging. To assist in this process the Pew Commission has revised the set of competencies that it developed in 1993 and now offers twenty-one competencies for successful practice in the twenty-first Century. The list of competencies immediately follows this section. The specific action steps for Recommendation One are:

- *Professional school faculties and administration* should evaluate their current course of study to determine whether or not they are adequately preparing students to meet the challenges set forth in the competencies.

- *Professional associations* should integrate the competencies into their accreditation and licensing processes, benchmarks for graduation, entry into professional practice and continuing competence.
- *Students* should assess the quality of educational programs based on how well they will prepare them to apply the competencies in their careers.
- *Hospitals and other institutional providers* should prefer partnerships with academic institutions that continuously revise their curricula to reflect changing market dynamics and that embody the competencies.

RECOMMENDATION 2 Ensure that the health profession workforce reflects the diversity of the nation's population.

The next generation of health professionals should represent the nation. Not only would renewed commitment to diversity be the fairest way to accommodate all potential medical practitioners, it would be in the best interest of those parts of the population that bear the greatest burdens of poor health. Students that come from medically underserved communities have demonstrated a much greater willingness to return to them to practice. By knowing the language and cultural mores of the population they serve, they offer a more complete and effective kind of care. A key challenge of the next century will be to apply our system's focus on achievement in the basic sciences to the widespread and equitable distribution of health care resources. One way to accomplish this is by attracting new types of students to the professions. Admissions standards should be established at a level that will ensure that the intellectual material needed to become a health professional can be mastered by the student. Such standards will rightly vary considerably across individual schools. Beyond that standard, admission should be established around the principle of representation and service. It is essential that the nation's health profession workforce represent the cultural diversity that is and will become an even more significant part of this society. This is not a quota borne out of a sense of equity or distribution of justice, but a principle that the best health care is delivered by those

that fully understand a cultural tradition. To create such a workforce the following actions must be taken:

- Admissions policies in *professional schools* must supplement their academic standards for entry with other criteria for admission such as ethnicity, cross-cultural experience and commitment to community service.
- *Universities and academic health centers* should activity engage the broader K-12 educational system to provide early exposure to the sciences and the health professions to populations who are under-represented in those fields.

RECOMMENDATION 3 Require interdisciplinary competence in all health professionals.

This competency is listed among the twenty-one, but is so essential for the future that it is emphasized here. Today's best integrated health delivery systems are evolving toward a model of care in which interdisciplinary teams of providers manage the care of the sickest patients. This model, which involves physicians, nurses, and allied professionals, is proving its worth with both acutely and chronically ill patients. Resources are used in the most timely and efficient way; mistakes or duplication of services is avoided; and the expertise and instincts of a number of trained health practitioners are brought to bear in an environment that values brainstorming, consultation, and collaboration. This is not a value that has been inculcated in health professional training programs of the past. Medical and professional schools should fundamentally reassess their curricula to ensure that their programs embody and apply an interdisciplinary vision.

- *Care delivery systems* should work with local educational programs to describe and demonstrate how interdisciplinary skills are being incorporated into practice.
- *Schools and faculties* should target 25 percent of their current educational offerings that could more efficiently and effectively be offered in interdisciplinary settings.
- *Students* should seek their own opportunities to study or work in environments that expose them to interdisciplinary care as early as possible.

RECOMMENDATION 4 Continue to move education into ambulatory practice.

The health care system has traditionally trained doctors in hospital settings, while the health care system is moving health care out of the hospital. Students need to be exposed to ambulatory settings early in their training. This movement has been underway for some time, but there is a long way to go.

- *Care delivery systems* should audit their current commitments to education, develop ways of cost sharing and promote effective integration of education and practice.
- *Schools and faculties* should assess what has been done to date, identify barriers to further movement and develop partnerships with the care delivery systems to help enhance the quality and amount of education in ambulatory settings.

RECOMMENDATION 5 Encourage public service of all health professional students and graduates.

The nation and its health professionals will be best served when public service is a significant part of the typical path to professional practice. Educational institutions are the key to developing this value.

- *Health professional programs* should require a significant amount of work in community service settings as a requirement of graduation. This work should be integrated into the curriculum.
- *Students* should assist in the design and development of such programs.
- *Communities and the health agencies* that serve them should actively participate in the partnerships through which these service programs can be built.
- *Existing programs of national service* tied to debt forgiveness should be expanded and enlarged in order to incorporate more health professional graduates.
- *Professional associations* should actively incorporate the idea of public service into regulation and professional development activity.

IV Twenty-One Competencies for the Twenty-First Century

Health care is likely to change even more in the next century than it did in the 20th, so it seems self-evident that the health professionals and the infrastructure that trains them will have to constantly reassess their relevance to that system and reinvent themselves as needed. The competencies described in this section attempt to more specifically articulate the Recommendations for All Health Professional Groups. Each item includes bulleted recommendations aimed specifically at health professional education programs. It is hoped that by internalizing these values and paradigms, health professions schools and the clinicians they train will be able to better mediate the tension between managed care and their patients. The strategies are not meant to be exhaustive, but they can point the way for individuals and health professions schools to begin making necessary changes. Schools and faculty also may find it helpful to use the strategies as a benchmark for assessing the current status of their educational programs and for developing strategic directions for change.

Competency 1 Embrace a personal ethic of social responsibility and service.

The definition of professionalism for health care clinicians ought to be expanded to include service to society. We anticipate the day when physicians, nurses, and allied professionals spend some portion of their career in underserved areas or in regions of public health crisis around the world. Professional work will be best positioned for the future if it builds and sustains such commitments from training through professional practice.

- Give qualified students with a track record of community service preference for admission.
- Institute a community volunteer or service-learning requirement for all students, beginning with matriculation and continuing through graduation.

Competency 2 Exhibit ethical behavior in all professional activities.

Health professionals must demonstrate ethical professional behavior at all times. This includes respecting the privacy and dignity of patients, being accountable to the community for

medical judgment, and, to the best of their ability, fostering equity in the delivery system. In these times when health professionals are increasingly involved with government programs and private research initiatives, ethical behavior also encompasses accuracy in coding, claims, outcomes, and research data.

- Introduce a code of professional ethics early in the curriculum, and ensure that it is part of every professional activity and learning experience.
- Develop and enforce standards of professional conduct.
- Model ethical behavior in all activities and interactions.

Competency 3 Provide evidence-based, clinically competent care.

Health professionals are obligated to provide clinically competent care, driven by the latest knowledge from the biological, behavioral, discipline-specific, and health management sciences. This challenge grows with the rapid expansion of new knowledge and the growing complexity of the health system, but it can be made manageable through awareness and use of information technologies like computerized decision-support. Health professionals must be able to evaluate a variety of sources on care-related evidence, including current research findings and clinical practice guidelines, and apply them appropriately to the management and treatment of disease. Any application must be measured against its ability to provide empirical evidence of contributing to enhancing outcomes or making more efficient use of scarce resources.

- Design and implement a curriculum that reflects up-to-date knowledge from the biological and behavioral sciences, the practice of the discipline, and the health management sciences.
- Incorporate research findings and clinical practice guidelines in the curriculum as sources of information for providing evidence-based care.
- Supervise, mentor, and evaluate students' acquisition of the identified clinical competencies (knowledge, skills, values) that are essential for contemporary practice.

Competency 4 Incorporate the multiple determinants of health in clinical care.

Practitioners must take into account more than the physiological determinants of human health. Good practitioners have long understood the importance of the emotional component of health, but today, still other factors and influences – psychosocial, cultural, economic, environmental, geographic, and political – can have a profound effect on the health of individuals and communities. While these factors are beyond the control of practicing health professionals, an understanding of these multiple determinants is necessary to enable providers to focus their care appropriately and link with other providers and community resources. Treating symptoms without understanding and addressing their root causes is not sufficient. Further, many of the problems individuals and communities present with today emanate directly from the degradation of the natural and social environments. Health practitioners must be able to assess and prevent or minimize the multidimensional risks to human health, including environmental hazards, community social problems, and geopolitical threats.

- Include the sciences of psychology, sociology, public health, and health policy and economics in the curriculum.
- Include learning experiences in the curriculum related to environmental hazards, community social problems, and geopolitical threats.
- Design clinical learning experiences that require students to assess, plan, and implement care that addresses the broad influences on health.
- Locate at least half of all clinical rotations in community-based settings, e.g., community clinics and private practices, schools, work sites, neighborhoods and homes, to provide students sufficient experiences with the multiple influences on health and health care.

Competency 5 Apply knowledge of the new sciences.

The revolutionary advances occurring in such areas as molecular biology, human genetics, pharmacology, and interdisciplinary sciences (e.g., pharmacoeconomics,

psychoneuroimmunology) are creating heretofore unknown challenges in health care. At the same time, alternative and complimentary medicine is producing an enormous range of new therapies and approaches to treating pain and disease. Health professionals must be able to continually evaluate new scientific knowledge, question the value it adds to health care, and when relevant, be able to transfer the knowledge into practice. A critical consideration will be the contributions that such changes make to the cost of care. The new sciences are also raising new ethical and social dilemmas. For example, the ability to identify the genetic basis of disease posed dilemmas about patient notification. Today's practitioners must at least understand the basics of the new sciences and their vast human and social implications, and advocate for their cautious and ethical application to health care.

- Continually update the basic sciences curriculum to incorporate the latest scientific advances.
- Require students to seek out, evaluate, and apply the latest relevant scientific knowledge in all clinical learning experiences.
- Incorporate learning experiences that give students opportunities to debate the ethical and social implications of scientific advancement.

Competency 6 Demonstrate critical thinking, reflection, and problem-solving skills.

Health professionals must be able to apply analytical reasoning, reflection, and rational problem-solving skills, using verifiable information and clinical judgment, in order to choose among or create alternative solutions to clinical problems. At the same time, they must develop the capacity for recognizing and reflecting on problems that fall outside current knowledge in order to respond effectively to situations and practice dilemmas they may encounter which are not yet known and for which there is no developed knowledge base for reference. Health professionals must recognize the contextual nature of health care, and be able to use their analytical skills to adapt evidence-based guidelines to unique and novel situations.

- Employ teaching strategies that encourage active student involvement, e.g., Socratic method, small group seminars, etc.

- Design learning activities that are student-driven , e.g., problem-based case studies, debates, electronic resources, multimedia assisted instruction, etc.
- Provide formal opportunities for students to reflect on their practice, within a safe environment that includes feedback from mentors and peers.
- Select or create learning opportunities that challenge students to use their analytical skills to adapt previous learning to unique and novel situations.

Competency 7 Understand the role of primary care.

Primary care involves the "provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community" (Institute of Medicine, 1996). Today's health care system has a decidedly mixed record putting this definition into practice. But a strong base of primary care is the best avenue for the coordination of a patient's life-long health care needs in a fragmented delivery system. All health practitioners, whether generalists or specialists, should understand and value the role of primary care, whether the patient is part of an integrated delivery system or not. Further, professionals who choose to practice in non-primary care fields must be able to work effectively with primary care providers in the delivery of comprehensive care.

- Require all students who are preparing for entry level professional practice, regardless of discipline, to complete an established minimum of clinical rotations in primary care settings.
- Provide opportunities throughout the curriculum to interact with primary care providers in the delivery of comprehensive care.

Competency 8 Rigorously practice preventive health care.

Although treatment of acute and chronic disease continues to command most of the attention and resources in our current health care system, the best managed care arrangements emphasize education, healthy lifestyles, and early detection and treatment of disease.

In fully integrated delivery systems, practitioners assume responsibility for the long-term health of their patients. Healthy individuals, families, and communities enjoy a higher quality of life and consume fewer health care dollars. Health professionals can help people and communities learn self-management skills that promote and protect their health. Further, health professionals must share responsibility with the public for promoting healthy lifestyles by serving as role models and resources for health information and education, and by applying knowledge of how changes in personal behavior can improve health.

- Introduce students to the importance of healthy lifestyles early in their program, with emphasis on their responsibility for promoting health by serving as role models and resources for health information.
- Teach principles of prevention, health promotion, risk reduction, and behavior change.
- Provide community-based learning experiences in health promotion and self-management of health with defined groups, such as school children, employees, and church and civic groups.
- Provide learning experiences that help students understand the link between healthy lifestyles, prevention, and the cost of health care.

Competency 9 Integrate population-based care and services into practice.

Health professionals must adopt a population-wide perspective of health care. An understanding of public health will underlie the growth of capitated arrangements under managed care, in which providers offer an array of services for defined groups or "covered" populations. Such care must encompass the knowledge and methods of clinical epidemiology, biostatistics, and behavioral and political sciences, and their application to the communities or defined populations with whom health professionals share responsibility for health outcomes. Population-based services should include epidemiologic tracking, identifying and serving members with unmet needs, and allocating resources appropriately and efficiently to maximize the defined population's health.

- Provide sufficient introduction to biostatistics, clinical epidemiology, environmental health, and public policy in the curriculum.
- Provide longitudinal learning experiences that require students to apply this knowledge to the care and services provided to a defined population in the community, including epidemiologic tracking and resource allocation.

Competency 10 Improve access to health care for those with unmet health needs.

Growing numbers of Americans lack adequate health insurance or resources for managing their health and health care. The nation's health care resources are unevenly distributed, and many individuals and communities are woefully underserved. Inequities in available and accessible health care have led to striking disparities in morbidity and mortality between affluent and poor populations. This affects everyone in society by increasing the economic and social burden of illness. Health professionals have a responsibility to improve access to basic health care services by distributing health resources as widely and efficiently as they can, and by acting as public and private advocates for individuals and communities with unmet health needs.

- Provide learning experiences that help student understand the link between access to basic health services and health outcomes and the social and economic burden of illness.
- Require an established minimum of clinical rotations and community service with underserved individuals and communities, in rural or urban areas appropriate to local needs.
- Provide opportunities for students to engage in community-campus partnerships to develop an understanding of the value of community-driven care to address unmet health needs.

Competency 11 Practice relationship-centered care with individuals and families.

Health care is by nature relationship-centered. Caregivers are constantly interacting with and establishing commitments to patients, their families, fellow health professionals,

administrators, and others. Fundamental to professional practice is the ability to communicate and interact with these parties clearly, effectively and appropriately. Health professionals must have the skills to convey ideas clearly and concisely both orally and in writing, listen openly and empathetically, and resolve conflicts. Health professionals also must have a desire and ability to convey compassion for people's experience of health and illness, including the meaning it holds for them in the context of their lives.

- Provide opportunities for students to assess and reflect on knowledge of self, self as a resource to others, and the importance of commitment to continuing self-growth in relationship with others.
- Model respectful, caring and compassionate behavior in all interactions with students, staff, patients, and communities.
- Include multiple opportunities throughout the curriculum for students to acquire and continually improve effective oral communication, interviewing, listening, writing, teaching, learning, presenting, and conflict resolution skills.
- Incorporate principles and practices of relationship-centered care as an explicit part of all clinical rotations.

Competency 12 Provide culturally sensitive care to a diverse society.

America's population is becoming increasingly diverse as we move toward the 21st century. During the course of their careers, practitioners should go out of their way to encounter individuals and communities whose values and beliefs about health and health care differ from their own. To provide appropriate and effective care, health professionals must understand how culturally learned values and customs affect people's health beliefs and practices. Such practices may include the use of non-traditional, alternative, and complementary therapies. It may also give a caregiver reason to study and master a foreign language. Health professionals must use this knowledge to collaborate with individuals and communities to provide health care that is sensitive to and consistent with cultural values, beliefs, and customs.

- Create a diverse learning environment by recruiting and retaining a cultural and racially diverse faculty and student body.
- Incorporate knowledge and principles of cultural values, beliefs, and customs in the curriculum, including health beliefs and health practices.
- Structure multiple experiences throughout the curriculum for students to engage with culturally different individuals, families, and communities, with a special focus on local populations.
- Introduce students to non-traditional, alternative, and complementary health practices which they may encounter in their clinical practice, and to consider these in the context of cultural values and beliefs.

Competency 13 Partner with communities in health care decisions.

Most Americans are comfortable with community-based health care institutions. Yet, the effect of many of the current changes is to remove health care responsibility from the community. Health professionals must work to reconnect health care resources with the communities they serve. The transformation in health care is redistributing responsibility away from the system and back to the provider and consumer. Increasingly, individuals and communities are becoming actively involved in seeking and evaluating information and making decisions about their health and health care based on their perceptions of quality, cost, and convenience. Health professionals must embrace individuals, families, and communities as full and equal partners in health care decisions, and provide them with the information they need to consider available alternatives and make informed choices for themselves. Health professionals also must be able to educate and counsel individuals, families, and communities in situations where ethical issues arise and difficult choices about treatment and use of limited health care resources must be made. Health professionals have a responsibility to support the right of self-determination and choice by individuals, families, and communities, even when those choices conflict with the values of the individual professional or the professional community.

- Provide opportunities for students to work in active partnerships with individuals, families, and communities to provide health information, assist them in evaluating available popular, scientific, and clinical practice information, and support them in making informed choices about their health and health care.
- Provide opportunities for students to work with patients and families in situations in which ethical issues arise, such as end-of-life decisions, allocation of scarce resources, patient confidentiality, and patient/family choices that conflict with those of providers or society.

Competency 14 Use communication and information technology effectively and appropriately.

The science and organization of health care is so complex that without information and communication technologies, the integration and management of health care simply would not be possible. Already, computerized patient records, on-line ordering, and decision-support are revolutionizing the way health professionals manage information and medical resources. These will be primary drivers of the health care system in the next century. Therefore, health professionals must be willing to work cooperatively with information systems officials in an ongoing effort to build and refine information technologies. A general awareness of the capabilities of computers and networks, as they apply in both the professional and the personal environments, will be invaluable help in making clinical and administrative systems work to the benefit of patients and clinicians alike.

- Provide students with access to the institution's electronic communication and information resources, regardless of student location.
- Structure learning assignments that require students to use electronic communication and information resources, e.g., literature searches, listserves, electronic patient records, patient education, presentations, written assignments.
- Provide learning experiences in clinical information management related to the delivery of health care to individuals and defined populations.
- Incorporate educational technology in teaching-learning, e.g., e-mail, computer-based multimedia, synchronous and asynchronous distance learning, digital modeling.

- Develop partnerships and alliances with computer and software companies to develop and test use of educational technologies and products.

Competency 15 Work in interdisciplinary teams.

Researchers are beginning to confirm what many caregivers have suspected intuitively for a long time: the coordinated efforts of practitioners from many disciplines provide the best outcomes for the sickest patients. The future of medicine will call on all health professions – doctors, dentists, nurses, pharmacists, allied professionals, and public health and social workers – to work together in more focused ways. Comprehensive care of individuals and populations requires a wide range of knowledge and skills and involves a variety of delivery settings. To assure effective and efficient coordination of care, health professionals must work interdependently in carrying out their roles and responsibilities, conveying mutual respect, trust, support and appreciation of each discipline's unique contributions to health care.

- Introduce students to the spectrum of health professionals and their respective and complementary roles in health care delivery.
- Incorporate planned interdisciplinary experiences in the curriculum, e.g., interdisciplinary courses, seminars, clinical experiences, research projects.
- Provide structured experiences in case management and coordination.
- Actively model effective interdisciplinary collaboration and team integration in teaching, research, and clinical practice.

Competency 16 Ensure care that balances individual, professional, system and societal needs.

As newer life-saving and life-sustaining technologies evolve, including gene therapies, individual patients and practitioners as well as society will be faced with increasingly difficult choices about the distribution of medical resources. Much of the high cost of health care can be attributed to the proliferation of new technologies to diagnose and treat disease, without regard to the real value they add to the health of the public or the quality of care for individuals. Health professionals must be prepared to assist individual and families consume these resources in a

competent, rational and cost-effective manner. Practitioners should collaborate with patients and payers in making decisions about the most appropriate care, to avoid waste, duplication, and unnecessary use of expensive treatments and technologies. This includes educating and counseling individuals, families, and communities in situations where ethical dilemmas arise and difficult choices about treatment and use of limited health care resources must be made. In the health care environment of the 21st century, all participants – practitioners, payers, and recipients of care – must balance the value and quality of care with its costs.

- Provide opportunities for students to learn about and evaluate the rational use of complex and costly technology.
- Require students to make explicit the connection between use of health care resources, costs, and the value and quality of care in all clinical encounters.
- Provide students with opportunities to debate and seek resolution to the potential dilemmas that may arise when patient or provider wishes conflict with the demands of health plans and payers.

Competency 17 Practice leadership.

The complexity and integration of health care services in the emerging systems of care require health professionals to be able to work effectively within and across complex integrated organizational and institutional boundaries. This will require health professionals that can think and act from the perspective of a system. This encompasses engaging in, rather than resisting efforts to track care and develop practice protocols. It means taking initiative to develop new ways of meeting the goals of managed care that are compatible with the needs of patients. All health professionals, whether they seek management positions or not, should be exposed to experiences that improve their ability to communicate, negotiate, lead, and facilitate change within healthcare organizations.

- Develop partnerships and alliances with integrated delivery systems to identify the knowledge and skills that are needed in the evolving health care environment.

- Provide multiple opportunities for students to gain a substantial portion of their practice experiences in complex, integrated health care systems.

Competency 18 Take responsibility for quality of care and health outcomes at all levels.

Health professionals in the managed care era find themselves more subject to outside scrutiny than ever before. Health plans, the government, purchasers, and consumers are becoming more intent on comparing the outcomes and costs of various providers. While this makes for a difficult transition from the old, solo practice world, it will in the long run be of great service to the health care system. Practitioners must accept accountability for their individual competence and performance and be fully aware of the standards and practices of their profession. Moreover, they must acknowledge their part in documenting the accountability of their health care team and institution. Only then can they add value to their own practice, and in turn, to the whole health system.

- Incorporate knowledge and learning experiences in the curriculum related to the administration, organization, economics, and management of health care.
- Design learning experiences to raise students' awareness of their individual and their profession's accountability for health care quality and outcomes.
- Provide opportunities for students to work with individuals, communities, payers, and providers in addressing issues of accountability at all levels for health care quality and outcomes.
- Introduce students to health care utilization, measurement of clinical outcomes, and health services research, providing first-hand learning opportunities when possible.

Competency 19 Contribute to continuous improvement of the health care system.

The health care system will continue to evolve as a complex and dynamic entity, changing continually in response to scientific, technological, economic and social forces. Health professionals must be engaged in the same kind of life-long learning. The principle of continuous improvement should become a routine part of clinical care. The ability to apply

systems thinking, measure variation, and organize and use information is essential if health professionals are to continuously improve the processes, outcomes, and cost-effectiveness of health care for both individuals and populations.

- Incorporate the knowledge and skills of continuous improvement (systems thinking, measurement of variation, organization and use of data) as an integral part of the curriculum.
- Require students to apply the knowledge and tools of continuous improvement in clinical practice to improve health care and health outcomes for both individuals and defined populations.
- Use continuous improvement principles and tools as a framework for teaching-learning and evaluation of self and student performance.

Competency 20 Advocate for public policy that promotes and protects the health of the public.

Health professionals must at least be aware of and ideally politically active in the advance of public policy affecting the health care system. This is how health professionals can do the most to advance the ideal of a system that protects and promotes the health of the general public. Given their expert knowledge and direct involvement in providing or administering health care, health professionals have a special obligation to act on behalf of and in concert with the public as advocates for healthy public policy. This encompasses both policies that distribute health care resources equitably and biomedical and health services research.

- Develop partnerships and alliances with communities and with local and state governments to determine the best ways to meet the health needs of the public.
- Work with state legislators and professional regulators to design regulations that allow optimal access to a competent health professions workforce and are effective in protecting the public's safety and welfare.
- Provide opportunities for students to learn about policymaking related to health care and biomedical/health services research at local, state, and national levels.

- Assign learning experiences that require students to become actively involved in public and private policy advocacy for health, e.g., forums and debates, letter-writing, attendance at legislative sessions, participation in local and state advocacy groups, and awareness of professional association positions on health care issues and legislation.
- Model responsible advocacy that promotes and protects the health of the public.

Competency 21 Continue to learn and help others learn.

The knowledge, competencies, and values for a successful lifetime of practice cannot be learned in the limited duration of a formal educational program. Rather, health professionals must embrace a career-long commitment to continuous learning. The rate of change in human knowledge and health care delivery makes such a commitment imperative for practitioner and society alike. Therefore, health professionals must embrace a commitment to continuously improve their knowledge and skills to ensure their relevance and competence throughout their professional careers.

- Introduce responsibility and accountability for self-learning early in the curriculum using teaching-learning strategies that foster students' active involvement in the learning process and continually stimulate their curiosity and inquiry.
- Prepare students with essential competencies basic to professional practice, with the expectation they will continue to build on them throughout and appropriate to their professional careers.
- Shorten the time and cost of completing curriculum requirements by reducing redundancy in the curriculum, making the educational program more accessible, and focusing on outcome competencies rather than a pre-set time to graduation.
- Provide relevant and current learning resources that are readily accessible to students and practicing professionals as they need them.
- Model lifelong professional development and learning by maintaining and continually improving own knowledge and competencies.
- Mentor others (students, junior colleagues) in their professional learning and development.

V Recommendations for the Professions

The 21 competencies described in the previous section apply to all the health professions. The recommendations in this section specifically address members of eight broad groups of health professionals, in alphabetical order. They are: advanced practice nursing, allied health, dentistry, medicine, nursing, pharmacy, physician assistants, and public health.

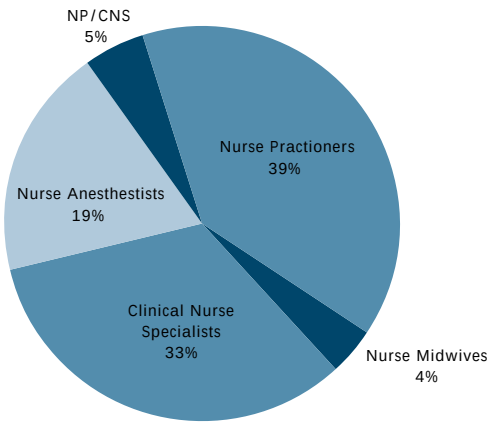
A. ADVANCED PRACTICE NURSING

PROFESSIONAL CHARACTERISTICS

Advanced practice nursing (APN) is a relatively new term that is used to describe registered nurses who practice with significant autonomy in expanded roles. Broadly speaking, advanced practice is characterized by an expanded knowledge base, increased complexity of clinical decision-making, and greater skill in managing other health care professionals. APNs include nurse practitioners (NPs), clinical nurse specialists (CNSs), nurse anesthetists (CRNAs), and nurse midwives (CNMs), as well as nurses who combine these practice roles.[50]

Nurse practitioners and clinical nurse specialists are by far the largest categories of APNs, followed by nurse anesthetists and then nurse midwives (Figure 10). Approximately 44 percent of NPs and CNSs practicing in the U.S. in 1996 were educated at the graduate level; the rest practiced without formal post-baccalaureate education in their field. The majority of CRNAs and CNMs practicing in 1996 had received graduate education in their specialty.[51]

Figure 10
Distribution of Advanced Practice Nurses by Type of Preparation



Source:
Moses,EB. *The Registered Nurse Population: Findings from the National Sample Survey of Registered Nurses,* March 1996.

Most APNs are certified by the state in which they practice, and many also receive national certification. An estimated 162,000 RNs were prepared to practice in at least one APN role in 1996. Over 3,000 advanced practice nursing students graduated in 1996.[52]

ISSUES FOR ADVANCED PRACTICE NURSING

Growing Competition with Other Providers

For some time, the new delivery system's emphasis on cost control has created a demand for non-physician practitioners who can provide quality health care at reduced costs. Some APNs, such as NPs, have been seen as cost-efficient substitutes for physicians, particularly in areas where the bias toward specialization has created a shortage of primary-care doctors. But as the medical profession starts to align itself with the needs of the changing health care system, primary-care physicians may become both more plentiful and less costly than before. Nurse practitioners and other APNs are likely to experience growing competition from physicians in a variety of settings, as well as from other non-physician health care providers.

Demonstrating the Added Value of Nursing Practice

Gradually, the health care system is coming to recognize the skills that make nursing practitioners unique among health care providers. Nurses are generally educated to use more preventive and health-promoting interventions, to counsel and communicate with patients more frequently, and to take advantage of health education, community resources, and behavioral interventions to manage disease and disability. Happily for APNs, these are precisely the skills that are needed in a health care system that values continuous and comprehensive engagement with patients to preserve their health. Unfortunately, most evaluations of APN practice have ignored these unique factors to concentrate on standards of competence and quality taken directly from physician models. If APNs are to clarify and justify their role in the changing delivery system, more data must be collected on their contributions to cost control, patient satisfaction, and clinical outcomes.

Changing Sites for Education and Practice

Recent reform in graduate medical education is likely to shift physicians-in-training away from hospital settings and to move APNs and other non-physician providers into their place. As academic health centers start to reduce the number of residency positions in medical specialties, opportunities may open up for APNs to work in hospitals. At the same time,

APNs and other non-physician practitioners may be squeezed out of non-hospital settings as physicians-in-training seek out ambulatory and long-term care sites. At this time, CRNAs are the only type of advanced practice nurse eligible for Medicare GME reimbursement; all other APNs are therefore at a disadvantage in competing for training sites.

Standardizing APN Practice and Education Across States

From a regulatory perspective, advanced practice nursing is hampered by its limited scope of responsibilities in some states and by a general inconsistency among states. At this time, 43 states and the District of Columbia allow some prescriptive authority. The majority of states permit independent APN practice with referral, and nine states permit completely independent practice. Twenty-five states reimburse APNs at rates equivalent to those paid for physician services, while the remaining 23 reimburse APNs at 50 to 99 percent of physician rates.[53] This lack of standardization among the states causes confusion and inhibits national unity among APNs. Recently, the National Council of State Boards of Nursing and the National Organization of Nurse Practitioner Faculties have initiated movements to standardize curricular programs and examinations that are intended to make the education and accreditation of APNs more uniform.[54]

RECOMMENDATIONS FOR ADVANCED PRACTICE NURSING

A1. Reorient advanced practice nursing education programs to prepare APNs for the changing situations and settings in which they are likely to practice.

- Prepare APNs to translate a core set of skills across institutions and settings, managing persons with health care problems regardless of their location.
- Expand the proportion of advanced-practice nurse training sites in ambulatory and long-term care settings favored by managed care systems.

A2. Regardless of payer source (HCFA or an all-payer pool), federal funding for graduate medical education should be made available to support the training of advanced-practice nurses and other non-physician providers in clinical settings.

- Pay funds directly to the clinical service site providing APN training and not to the educational programs that are responsible for planning education.
- Develop a mechanism to ensure that this funding does not create an unwarranted expansion of the total number of training positions for APNs.

A3. Develop standard guidelines for advanced nursing practice and reinforce them with curriculum guidelines, examination requirements, and accreditation regulations.

- Establish standards for interdependent vs. autonomous practice, prescriptive authority, hospital admitting privileges, civil liability, and other critical areas.
- Gather input from a broad set of health disciplines to ensure that guidelines reflect the diversity of APN practice in the delivery system.

A4. Emphasize the practice styles that are a critical part of advanced practice nursing, including the emphasis on preventive and health-promoting interventions and attention to psychosocial, environmental, and resource factors.

- Support research to examine the effect of these practice characteristics on outcomes in the populations served by emerging health care networks.
- Enhance the research training of APN students to ensure that future APNs have the background to evaluate and advocate for effective practice styles.

B. ALLIED HEALTH PROFESSIONS

PROFESSIONAL CHARACTERISTICS

Allied health refers to a diverse group of professionals and personnel who work in conjunction with physicians, dentists, nurses, physician assistants, and other providers to deliver health services. It encompasses a wide range of professions and occupations in disease detection and prevention, health promotion, technical support, rehabilitation services, and health systems management. Among the professionals and personnel consistently identified as allied health providers are physical therapists, physical therapy assistants, occupational therapists, medical

assistants, medical record administrators, home health aides, and radiology technologists and technicians. Now blurring the line with allied health are a number of auxiliary health occupations, primarily hospital-based, many of which are unlicensed in the U.S.

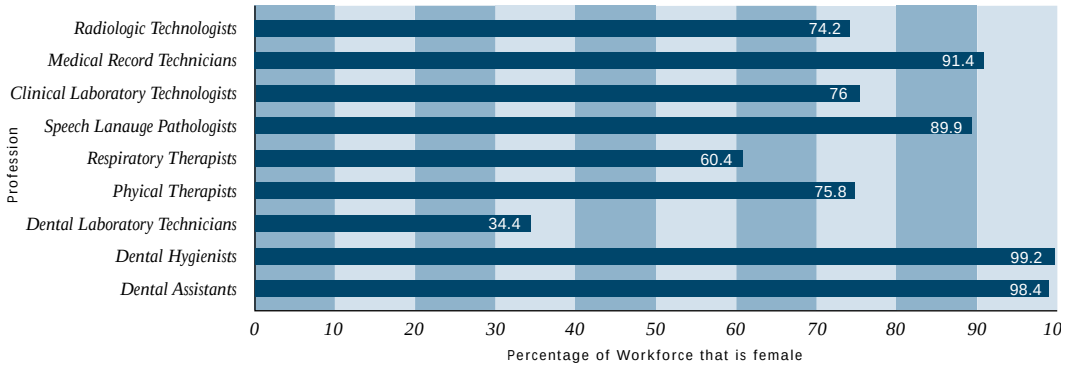
Allied health professionals are diverse in terms of the types of work they perform, the amount of education they have, the settings in which they work, and the regulatory control of their activities. Some fields require six-month or one-year program certificates after high school, while others require two- or four-year college degrees or graduate training before certification. The majority of auxiliary health occupations do not have a secondary school requirement and depend entirely on on-the-job training, with or without licensure or certification. Allied and auxiliary health includes jobs that are concentrated in one practice setting (e.g. hospital-based radiology technicians), as well as those that are dispersed across health-related industries.

Allied health accounts for 60 percent of the nation's 10.5 million health care workers. Of all the health professions, this workforce contains the greatest number of minorities, although racial and ethnic diversity varies greatly across different allied health fields. Except for dental laboratory technicians, who are two-thirds male, all other allied health fields are predominantly female, with overwhelming dominance existing in fields such as dental hygiene. The percentage of women, African Americans, or Hispanics in selected allied profession is shown in Figures 11 and 12.

ISSUES FOR ALLIED HEALTH

Gathering Data on Allied Health Practices

Although there is growing acceptance that the allied health professions play a crucial role in cost and quality control, there is still very little empirical evidence to support this conclusion. Since the majority of allied health training programs focus on preparing graduates for practice, opportunities for professionals to conduct academic research in their fields are extremely limited. Research in allied health has also been hampered by difficulties in developing appropriate assessment tools for evaluating such a wide range of disparate professions. As a result, many of the empirical studies of allied health conducted in recent



Source: ASAHP: Report of the National Commission on Allied Health, 1995.

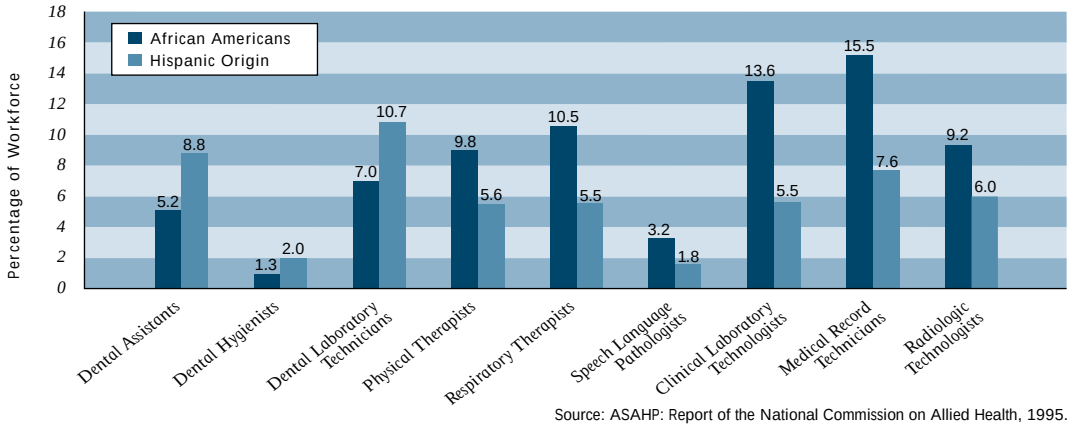
Figure 11

Percentage of Women in Selected Allied Professions, 1989–1993 Average

years have focused on overly narrow aspects of service delivery and relatively simplistic outcome measures. If the allied health fields are to establish a strong scientific base for professional growth, a more comprehensive research agenda must be developed to study their unique contributions to cost and quality.

Standardizing Auxiliary Health Training and Practice

The tradition of "on-the-job" training of some auxiliary health occupations creates obstacles to the development of practice and certification standards that can be applied across institutions and settings. This is especially true for those auxiliary health fields that are focused on the operation of specific equipment or the performance of specific procedures to the exclusion of more global aspects of care. Individuals in these fields may be trained in the specific skills required to practice in one institution, without being able to transfer their skills to accommodate the needs of another site. In the past, the various employers of auxiliary health services have been slow to cooperate in developing basic "competence" profiles for



Source: ASAHP: Report of the National Commission on Allied Health, 1995.

Figure 12

Percentage of African Americans or Hispanics in Selected Allied Health Professions, 1989–1993 Average

personnel that can be recognized across sites. Relatively little attention has been paid to this workforce in spite of its importance in care delivery. The need for standardized training will become more pressing as the delivery system calls for health care workers at all levels to expand their responsibilities to more complex aspects of care.

Greater Continuity in Training and Practice

The changing health care delivery system is creating a demand for allied health professionals who offer a wider ranges of clinical skills, better preparation in management, greater experience in independent practice, and more flexibility in adapting to practice settings than they currently have. Employers cite the need for individuals who are self-teachers, flexible, and sensitive to diversity within the community. Allieds who are team-focused and possess interpersonal and listening skills also are in greater demand. A major obstacle to preparing the allied health workforce to face these upcoming challenges is the lack of career ladders allowing individuals to expand and diversify their array of skills. Because the entry and exit points to the various positions within allied health are limited, individuals may lose time moving through programs and repeating courses to update their qualifications. A more creative, cooperative effort is needed to create linkages and articulation between training institutions and allied health employers to encourage career mobility at all levels.

Greater Cooperation Between Health Care Providers

The allied health workforce has traditionally relied on strong cooperative and/or hierarchical relationships with other health care professions to achieve shared goals in delivering care. However, recent developments in the delivery system such as multi-skilling and streamlining are likely to change the number and nature of these relationships substantially. Employers are currently experimenting with ways of cross-training allied health professionals and personnel at all levels in the skills needed to play a more comprehensive role in the delivery of care. There is great potential for these individuals to participate in multi-disciplinary teams, in which they share responsibility for evaluating patients, developing treatment plans, and assessing outcomes. At the same time, other health professionals competing for limited staff

positions and anxious about their professional autonomy may come to see allied health as a threat to their "turf." It is therefore crucial that allied health providers and other professionals such as nurses and physician assistants collaborate to foster appreciation of one another's unique and collective capabilities.

RECOMMENDATIONS FOR ALLIED HEALTH

B1. Create incentives for public and private employers of allied health services to support outcomes-based research on allied health practices.

- Combine funds from state, education, and industry partnerships.
- Ensure that the process is competitive and peer reviewed.

B2. Create partnerships of educators, employers, and workers to identify and standardize auxiliary health competencies that are learned on the job.

- Establish a core set of competencies that cut across the auxiliary occupations, such as knowledge of basic medical terminology, ability to communicate in a health care setting, and an understanding of health workplace safety.
- Build upon this core by delineating more specific guidelines for different auxiliary health occupations and tie these definitions to career ladders.

B3. Facilitate the continuous retraining of allied health professionals.

- Create links across different practice arenas within allied health.
- Create local education-health delivery partnerships for articulations and linkages.
- Connect continuous competencies with relicensing processes.

C. DENTISTRY

PROFESSIONAL CHARACTERISTICS

Dentistry is the health care profession that is responsible for maintaining the health of the teeth, the gums, and the other hard and soft tissues of the oral cavity. Dentists

diagnose, treat, and prevent oral disorders such as tooth decay, periodontal disease, malocclusion, and oral-facial anomalies that affect normal speech, mastication, or facial appearance.

Traditional dental school curriculum requires four years of academic study. The first two years focus on the didactic medical sciences, while the final two are devoted to clinical dentistry. Graduates may pursue advanced training in general dentistry or in the specialties of dental public health, oral pathology, endodontics, orthodontics, pediatric dentistry, periodontics, or oral surgery. There are currently 54 dental schools in the U.S., of which 35 are public and 19 are private.

Nearly 150,000 dentists are in active practice in the United States, and the ratio of dentists to population stands at approximately 56 dentists per 100,000 U.S. residents.[55] This number is expected to drop due to enrollment and retirement trends in the next ten years, however.[56] The proportion of women in the dental workforce is at 10 percent and rising. Minorities account for less than 10 percent of the dental workforce.

Dentistry has not experienced the same level of managed care penetration as other health disciplines; only about 20 million people were enrolled in dental managed care plans in 1995.[57] Private practice is therefore the predominant mode of dental service delivery, and sole proprietorship remains the norm. Recent years have seen an increase in the number of insured patients converting to managed care, however (Figure 13). The vast majority of dentists practice in conjunction with some type of allied dental worker, such as dental hygienists, dental assistants, and dental laboratory technicians.

ISSUES FOR DENTISTRY

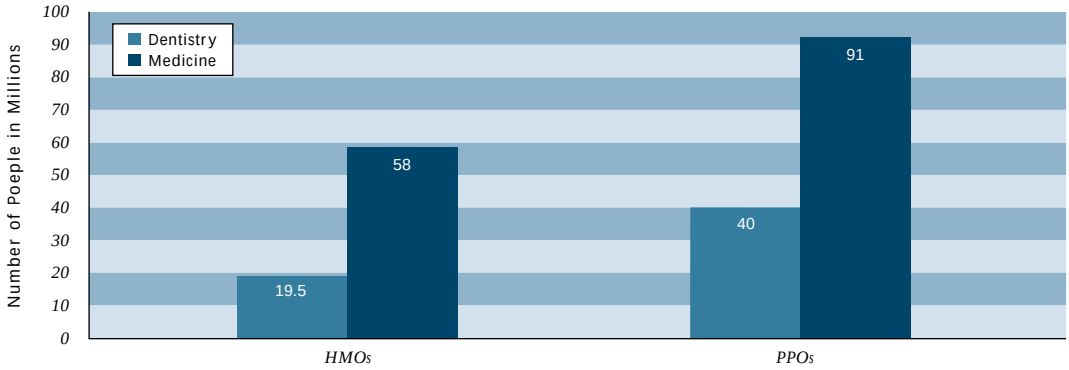
Consolidation and Restructuring of Dental Curriculum

For some time, educators have argued that dental schools' curricula are over-crowded with material and that they give students too little time to consolidate concepts or develop critical-thinking skills. Due to insufficient integration between the biological and clinical sciences, students may view their science classes as irrelevant hurdles to be passed before their true training begins. At the same time, curricula have not always kept pace with changes in

oral health problems, scientific knowledge, information management techniques, and approaches to patient care. The next few decades will bring increasing pressure on dental schools and the academic centers that house them to re-examine the relevance and length of their educational enterprises. Dental curricula must be pruned of unnecessary material and reoriented to prepare students to take advantage of medically-oriented strategies for prevention, diagnosis, and treatment. Considerable leadership and cooperation among the various components of the dental profession will be needed to overcome the financial and professional barriers to educational reform.

Greater Integration into the Delivery System

Historically, dentistry has been isolated from the rest of the delivery system in a way that has prevented it from working effectively with other professions to maximize patients' health. At this time, there is little incentive for dentists, physicians, and other providers to cooperate to ensure that patients receive oral care at appropriate points in the delivery system. On the one hand, dental education is currently designed to emphasize the mastery of specific dental procedures rather than the incorporation of oral care into the overall preservation of health. On the other hand, medical education does not adequately prepare physicians to recognize patients' need for dental services and to work with dentists to manage cases involving oral health. In light of the movement toward interdisciplinary care in the new health system, dentistry can only benefit from developing a more cooperative relationship with medicine.



Source: AAHP, 1995. Foster Higgins, 1995.

Figure 13
Number oof Insured Patients Converting to Managed Care in Dentistry Versus Medicine

Greater Cooperation with Allied Dental Personnel

The recent changes in the health care delivery system have created incentives for many health care professionals to re-examine their relationships with allied health providers. Because dentistry has not experienced the same managed care penetration as other health professions, it has not been under the same pressure to delegate responsibility to other providers. In the future, however, dentists may find that they are increasingly subject to health plans' cost concerns, since more and more people with private insurance are turning to health plans for dental coverage. Dentists may be called upon to delegate many more common tasks to allied dental personnel in order to concentrate on managing complex oral medicine cases that require their expertise. Efforts to expand the role of allied workers in dental care may meet with opposition from segments of the dental profession that are anxious about protecting their scope of practice.

RECOMMENDATIONS FOR DENTISTRY

C1. Promote and develop opportunities for cooperation between dentistry and medicine that will integrate oral medicine into comprehensive patient management.

- Integrate the training of dental and medical students at the undergraduate and graduate levels and explore options for integrating dentistry as a medical specialty.
- Create required and optional clerkships for dental students in areas of medicine that are relevant to dental care, such as emergency medicine, pediatrics, and geriatrics.
- Ensure that physicians who are training to be generalists receive adequate exposure to issues in oral health and train them to work with dentists effectively.

C2. Redesign dental schools' curricula to focus on critical competencies for integrated care and support them with accreditation and licensing standards.

- Set explicit targets and time-tables for modernizing courses and eliminating marginally useful material in order to shift emphasis to clinical thinking and problem-solving skills.

- Redesign dental licensure examinations to increase the emphasis on disease and physiology and to support dental schools' orientation toward comprehensive care.

C3. Develop and expand the relationship between dentists and allied dental workers.

- Encourage the development of new roles for dental hygienists, assistants, and laboratory technicians in providing basic dental services under the supervision of dentists.
- Train dentists in the management and communication skills necessary for providing leadership in dental and health teams with multiple types of professionals.

D. MEDICINE

PROFESSIONAL CHARACTERISTICS

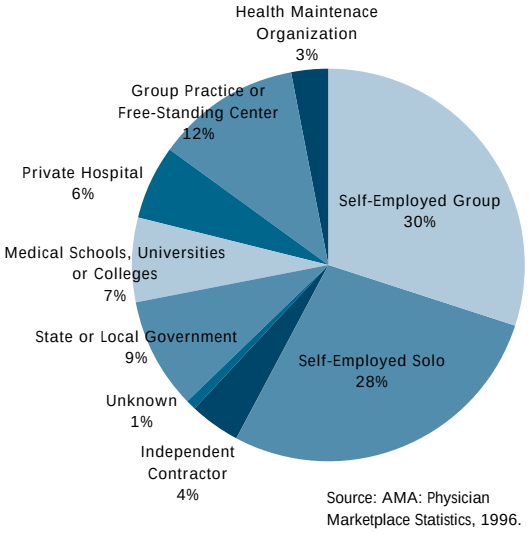
Physicians draw upon the art and science of medicine to diagnose and treat patients with disease or injury and to guide patients in adopting health-maximizing behaviors. They play a unique role in the health care delivery system in that they are the only professionals that are legally recognized in all fifty states to provide comprehensive care as autonomous practitioners.

Physicians are trained in either allopathic or osteopathic medicine and acquire either a Doctor of Medicine (MD) or a Doctor of Osteopathic Medicine (DO) degree. The MD requires a minimum of four years of post-baccalaureate training at an allopathic medical school, followed by a minimum of three more years of clinical training in a medical specialty as a resident. DOs study for four years at a college of osteopathic medicine and go on to perform a rotating internship and residency in either an allopathic or osteopathic program. There are currently around 740,000 MDs and 40,000 DOs in the United States.[58]

Physicians are trained with special skills either as generalists or specialists. Those trained in areas such as general internal medicine, family practice, or general pediatrics are considered to be generalists and tend to serve as patients' primary-care doctors. They deal comprehensively with the undifferentiated problems presented by their patients, which range from the routine to more complex issues that require coordination of care.

Figure 14

Nonfederal U.S. Physicians by Practice Type and Employer



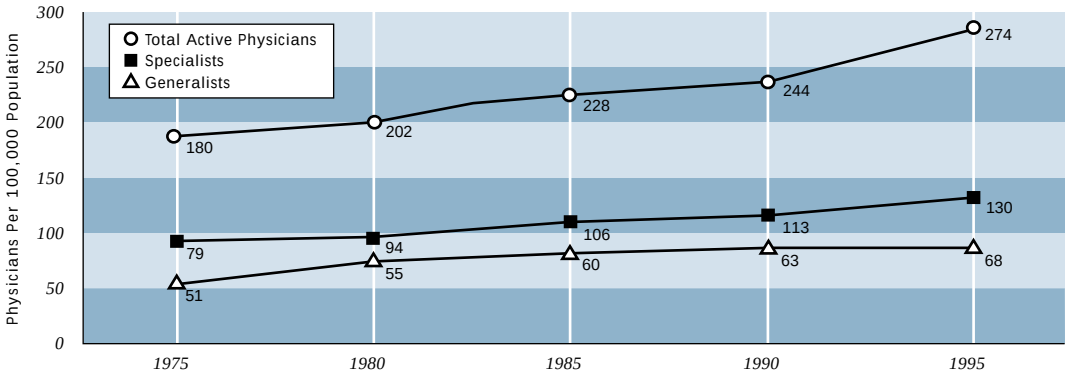
Sub-specialists receive advanced training in a medical specialty in order to care for patients that are referred to them with complex conditions requiring their particular expertise. Some physicians are now being trained in specialized fields that do not directly involve patient care, such as medical research, health services management, and public health.

Significant changes in physicians' practice settings and configurations have occurred in recent years. While the majority of physicians once practiced autonomously or with a few supporting providers, physicians are moving overwhelmingly into group and collaborative practices. Growing numbers of U.S. physicians are also choosing to become employees of managed care and integrated health care delivery organizations rather than owning their own practices. Many feel they are being forced into such arrangements by economic forces that are beyond their control. The distribution of nonfederal U.S. physicians by practice type and employer is displayed in Figure 14.

ISSUES FOR MEDICINE

Regulating the Growth of the Physician Workforce

Despite warnings of a growing oversupply of physicians in the United States, students have continued to enter medicine in greater numbers than ever before. While the number of new allopathic matriculates remained fairly constant between 1994 and 1996, the number of new osteopathic matriculates increased by more than 14 percent.[59] The total number of medical residents also increased slightly in the period 1994-1996, with international medical graduates (IMGs) continuing to add substantially to the U.S. residency workforce.[60] Overall, recent reforms in medical education have resulted in modest reductions in enrollment, but not enough to produce the dramatic workforce downsizing advocated by workforce experts.[61] Figure 15 displays trends in the physician-to-population ratio from 1975 to 1995.



Source: COGME Tenth Report, 1998.

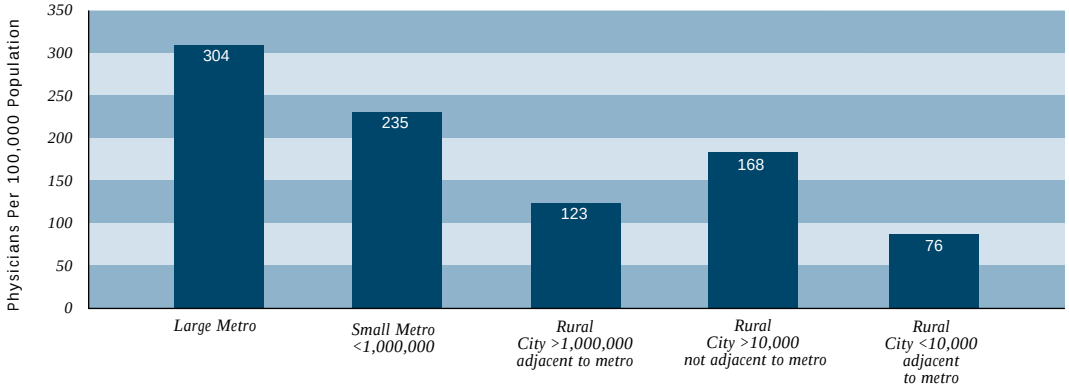
Figure 15

Trends in the physician-to-population ratio, 1975–1996

Changing the Composition and Distribution of the Workforce

In spite of the oversupply of physicians in the United States generally, many rural and inner-city areas continue to experience a severe shortage of primary-care doctors. Studies show that physicians tend to gravitate toward relatively affluent urban and suburban areas of the country for a combination of personal, professional, and financial reasons.[62] The result has been a persistent geographic maldistribution of physicians and other health providers. Almost 47 million U.S. residents, or one in six, live in provider shortage areas. Over 50 million people, or 20 percent of the nation's population, live in rural areas, but only nine percent of practicing U.S. physicians currently serve these communities.[63] Figure 16 shows the variation in the physician-to-population ratio according to location.

Further contributing to physician supply problems is the over-representation of specialists in the workforce. Professional and financial incentives continue to bias students toward specialization, despite widespread discussion of the need for primary-care physicians to



Source: AMA from BhPr's data, as displayed in COGME, 1998.

Figure 16

Variation in the Physician-To-Population Ratio According to Location

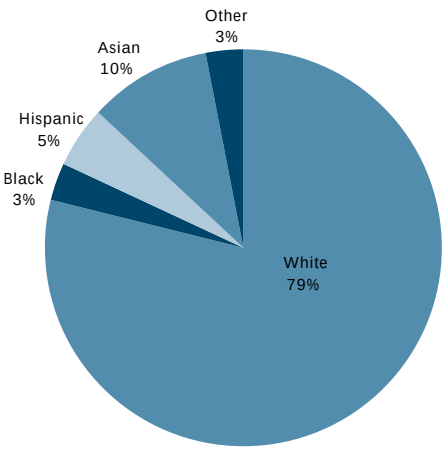
provide basic health services. Recently, the number of medical schools with required clerkships in family practice increased to 100, while residency programs saw an increase in the number of family practice positions.[64] Nevertheless, more dramatic institutional changes are needed to achieve a physician workforce with a proportion of generalists and specialists that is appropriate to the nation's needs.

Improving Workforce Diversity and Cultural Competence

The growing racial and ethnic diversity of the U.S. population is creating a need for health care providers who can deliver culturally-competent care to minority patients. Studies have shown that minority health care professionals are more likely to practice in traditionally minority or underserved communities and to provide culturally-sensitive care.[65] Unfortunately, many minority groups such as African-Americans and Hispanics are significantly under-represented in the physician workforce, when compared to the population at large. Hispanics account for 9 percent of U.S. residents but only 4.6 percent of physicians, while African-American account for 11 percent of U.S. residents but only 2.9 percent of physicians (Figure 17).

Although there have been efforts to recruit under-represented minorities into medical school, recent challenges to affirmative action on the state level have slowed this movement to some extent. The 1997–98 first-year medical class actually showed a 12.1 percent decrease over the prior year in the number of underrepresented minority matriculates, reversing the trend of the early 1990s.[66]

Figure 17
Distribution of US Physicians by Race



Source:
AMA: Physician Characteristics and Distribution in the US, 1997–1998.

Growing Need for Training in Non-Hospital Settings

Due to the growth of managed care and innovations in biomedical technology, a growing proportion of health care delivery is shifting to non-hospital

settings. Physicians and other providers are starting to be valued more for providing health education, population-based care, and preventive screening than for delivering acute care in hospital settings. Unfortunately, medical education has been slow to adapt to recent changes in physicians' practice settings and treatment modalities. Residents and students continue to receive the majority of their clinical training at teaching hospitals and academic medical centers that serve a disproportionately high number of acute-care patients. As a result, physicians-in-training do not get adequate exposure to the types of conditions, procedures, and treatment modalities that will one day confront them in managed care.

Reconsidering Length and Approach to Training

While graduate medical education has begun to adapt to the changing delivery system, there has not been a significant reassessment of undergraduate medical education. Students undergo the same basic four years of training regardless of whether they plan to be family practitioners, radiologists, clinical or biomedical researchers, or public health workers. Educators have often attempted piecemeal reform of undergraduate curricula by adding or dropping selected courses or by changing the length of school semesters by days or weeks. But institutional and professional barriers have prevented schools from more substantially consolidating their programs or from tracking students into specific fields at an earlier stage. Considering the dramatic downsizing that is taking place in so many other arenas of the health care system, it is time to consider condensing medical students' basic training experience. As tomorrow's physicians are called upon to play more differentiated roles in the delivery system, medical education must be able to provide efficient paths to each type of practice.

RECOMMENDATIONS FOR MEDICINE

D1. Use government subsidies to create incentives for reducing specialist residency positions and maintaining adequate numbers of generalist residency positions.

- Require teaching hospitals receiving public reimbursement to maintain at least as many generalist residency positions as are currently available.

- Reimburse teaching hospitals for adding positions in generalist programs only if these increases are offset by reductions in specialty positions.

D2. Continue current public and private initiatives to encourage physicians to practice in underserved areas and explore new strategies to address this challenge.

- Expand programs such as the National Health Service Corps which partly subsidize medical students' debt in exchange for service in underserved areas.
- Encourage undergraduate and graduate medical education programs to include a mandatory service-oriented rotation in underserved communities.

D3. Expand current mechanisms for moving general internal medicine, family practice, psychiatry, gynecology, and pediatrics clinical clerkships to non-hospital sites.

- Distribute indirect medical education payments among teaching hospitals, non-hospital teaching sites, and affiliated academic institutions.
- Focus research on determining the most appropriate percentages, as well as mechanisms for estimating costs associated with education in non-hospital settings.

D4. Explore strategies for tracking medical students at an earlier stage into four basic fields: primary care, sub-specialty care, research, and administration.

- Develop a consensus among educational leaders about the core of knowledge and skills that are needed by all physicians regardless of practice area.
- Establish clearly-defined boundaries for educational tracks associated with the basic fields of primary care, sub-specialty care, research, and administration.
- Create elective opportunities within undergraduate programs for medical students to spend a minimum of six months to a year gaining on-site experience in one of these fields.

E. NURSING

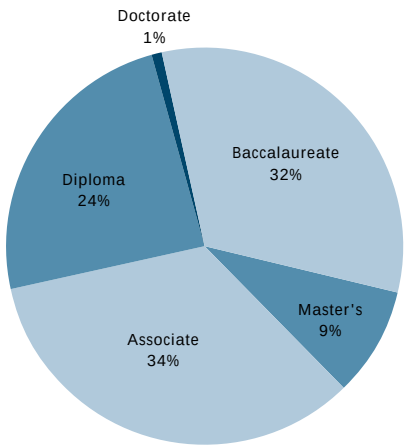
PROFESSIONAL CHARACTERISTICS

Nursing is by far the largest single health care profession, with approximately 2.6 million registered nurses (RNs) licensed to practice in the United States.[67] Over the past fifty years, nursing has changed substantially from a largely supportive role in health care to one with many independent and complex responsibilities in care delivery. Today RNs are called upon to conduct physical exams, coordinates pathways of care, provide health education, and perform many other tasks with and without the collaboration of other providers.

RNs may be classified into five groups, based on the highest level of education they have completed: associate degree (two-year program based at a community college), diploma (three-year program based at a hospital), baccalaureate degree (four-year college program), master's degree (one- to two-year graduate program), and doctoral degree.

Figure 18 displays the distribution of nurses by their highest level of educational attainment. As it shows, RNs with associate degrees account for over a third of U.S. registered nurses, while RNs holding master's or doctoral degrees account for less than 10 percent of U.S. registered nurses.[68]

The nursing workforce also includes 700,000 licensed practical and vocational nurses (LPNs and LVNs) who perform a variety of patient care, clerical, and housekeeping tasks, often with RN supervision. Many RNs obtain certification as LPNs or LVNs to secure employment while they are in school, and in most states, LPNs and LVNs can administer medications and perform other basic functions. Recent years have also seen the emergence of the advanced practice nurse (APN), a category of RN with graduate training, greater practice autonomy, and expanded responsibilities. The issues and recommendations for APNs are outlined earlier in this report.

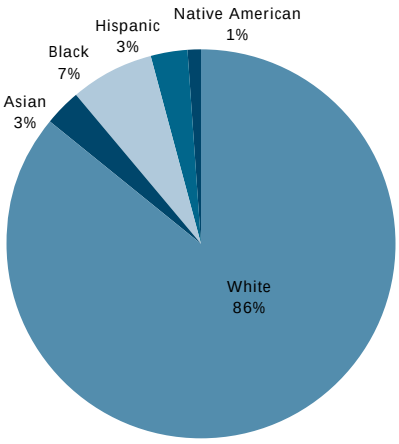


Source:
Moses, 1997.

Figure 18
Distribution of Nurses by Highest Level of Educational Attainment

Figure 19

RN Graduates, Average from 1990–91 to 1994–95



Source: Moses, 1997.

ISSUES FOR NURSING

Nursing Workforce Demographic Trends

A number of demographic trends in the RN workforce pool have the potential to affect the profession's ability to meet the nation's changing health care needs. The racial distribution of registered nurses continues to differ from that of the U.S. population as a whole, with minorities accounting for 28 percent of all U.S. residents but only 10 percent of RNs (Figure 19).

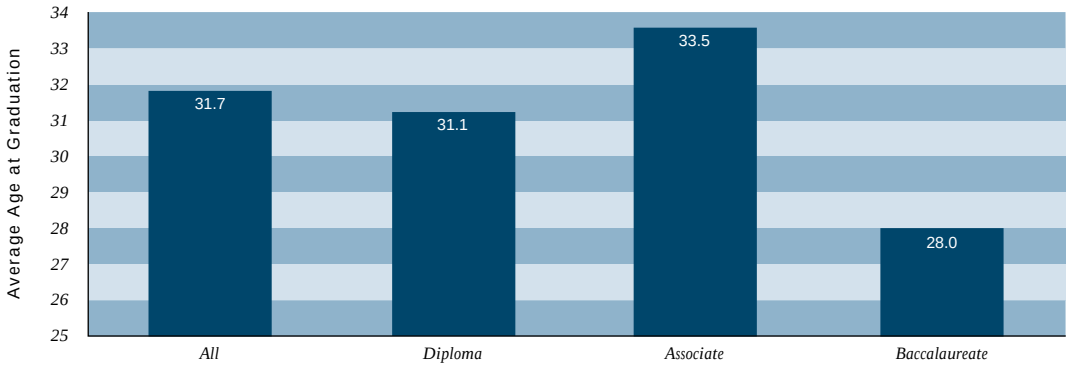
The gender disparity in nursing is also dramatic, with men accounting for only 5.4 percent of the nursing workforce despite a recent surge in the number of male RNs.[69] One of the most significant issues for the foreseeable future is the aging of the nursing workforce. The average age of the RN has risen steadily in the last decade and is now more than 44 years, while the average age of graduation from basic education programs has risen to 31.7 years (Figure 20). At a time in the not-too-distant future when aging baby boomers will need more nursing services, many RNs may be in the position of needing care rather than being able to provide it for others.

Changing Demand for Nursing Services

Long-term trends in the supply of and demand for nursing services continue to be difficult to determine.[70] Between 1980 and 1994, the number of RNs per 100,000

Figure 20

Average Age of Graduation from Basic Nursing Education Programs



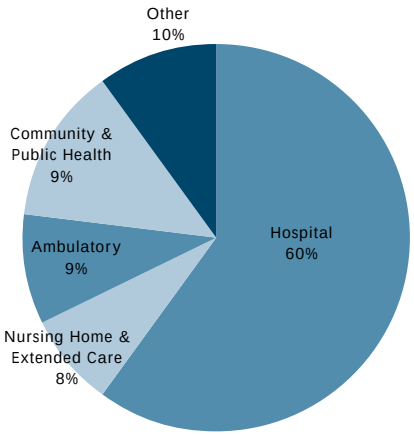
Source: Moses, 1997.

population in the U.S. increased by 40 percent, resulting in approximately 970 RNs for every 100,000 U.S. residents.[71] Many metropolitan areas appeared to be experiencing an oversupply of RNs, as hospitals reduced their bed capacity and, consequently, the size of their nursing workforce. However, there have recently been reports that some of those same areas are starting to experience shortages of skilled nurses in acute care, perhaps owing to the growing intensity level of hospital care. Predictions of demand are also complicated by the uneven geographic distribution of the workforce; in 1996, the Pacific area had the lowest nurse-to-patient ratio – 621 RNs per 100,000 U.S. residents – while New England boasted the highest, at 1,103 RNs per 100,000 U.S. residents. As is the case with many other health care professions, many rural areas of the country continue to experience nursing shortages even during periods of metropolitan oversupply.

Shifting Nursing Employment Settings

While hospitals remain the largest nursing employers in the U.S., accounting for 60 percent of working RNs, employment opportunities have gradually been shifting to other sectors (Figure 21).

Registered nursing employment in the period from 1980 to 1996 increased 137 percent in ambulatory care, 116 percent in public and community health, and 64 percent in long-term care. By comparison, the number of nurses in traditional hospital settings grew only 50 percent. Nursing education reform has been relatively slow to reflect the broadening of RNs' practice, however. Recently, more than half of all basic nursing education programs reported that the majority of clinical learning experiences continue to take place in acute care settings, with fewer than 20 percent of clinical experiences based in



Source:
Moses, 1997.

Figure 21
Distribution of Registered Nurses by Employment Setting

community or long-term care settings. Employers also report that new nursing graduates often require retraining for basic clinical practice roles, a costly process.

Differentiation of Nursing Education and Practice

Nursing's multiple entry points are arguably one of the profession's greatest strengths, and its educational diversity can be seen as an asset in a changing health care system. But the growing demand for health care professionals with more specialized skills will also make it necessary for the profession to distinguish between the various paths to nursing practice. In the absence of a clearly-articulated continuum of education and practice in nursing, employers are already decreeing minimum competencies for practice roles and recruiting nurses accordingly. Nursing as a profession faces the challenge of defining the various competencies for each of its educational levels—diploma/associate, baccalaureate, advanced—and their associated scopes of practice.

Changing Competencies for the Nursing Workforce

The demands placed on nursing in the emerging health care system are likely to require a greater proportion of RNs who are prepared beyond the associate or diploma level. Future RNs will need the critical thinking skills, independent clinical judgment, management and organizational skills, leadership abilities, and technological understanding to operate in diverse settings. They will need to add these skills onto traditional nursing competencies such as population-based approaches to health and the incorporation of the psychosocial/behavioral perspective into care delivery. A broader educational foundation is necessary to ensure that nursing professionals have the knowledge and skills needed to assume greater responsibility for management and coordination of personnel, services, data, and resources, in addition to their roles as care providers.

Greater Integration of Research and Practice

Historically, nursing has sought to enhance its academic credibility and professional autonomy by isolating its educational and research activities from the actual delivery

of care. Faculty tended not to practice, or if they did so, they did not consider it to be an integral part of their academic duties. Today, there is a need for nurse educators who can integrate academic research and clinical practice in a way that furthers the philosophical and practical goals of the profession. The dramatic changes taking place in delivery systems present extraordinary opportunities for the nursing profession to examine the clinical and financial effect of nursing on models of care. Faculty in associate degree and diploma programs should be able to draw upon clinical experience to prepare students in the clinical competencies demanded by the health care market. Faculty in baccalaureate and graduate programs must have the clinical perspective to develop a research agenda that produces evidence-based approaches to improving health.

RECOMMENDATIONS FOR NURSING

E1. Adjust education programs to produce the numbers and types of nurses appropriate to local or regional demand, rather than institutional and political needs.

- Implement aggressive recruitment and retention efforts to increase the enrollment and graduation of under-represented minorities, especially at higher degree levels.
- Target high school and early college level students for entry into undergraduate nursing education programs in order to reverse the trend in workforce aging.

E2. Delineate the knowledge and outcome competencies appropriate for each level of nursing education in order to maximize efficiency, improve coordination and articulation of programs, and reduce professional conflict and public confusion.

- Continue to downsize or merge diploma programs with college or university-based programs, while increasing admissions to baccalaureate programs.
- Expand and strengthen existing career mobility programs to facilitate educational advancement for associate degree and diploma-credentialed RNs.

E3. Radically revamp the content and learning experiences in the nursing curriculum to produce graduates with the competencies needed for differentiated practice.

- Increase the proportion of learning experiences in ambulatory, long-term care, and community-based setting at all appropriate levels of nursing education.
- Refocus higher degree programs on group management skills, clinical management skills, technological capabilities, critical thinking, and professional judgment.

E4. Integrate the research, teaching, and practice enterprises of nursing education programs in order to further nursing's professional and practical goals.

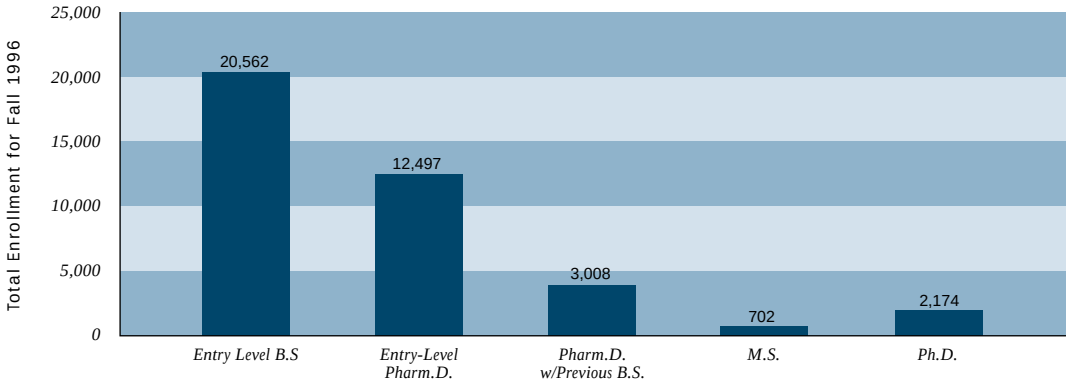
- Recruit nurses with extensive practice experience, particularly in integrated systems of care, to teach in diploma/associate degree programs.
- Expand the opportunities for faculty in baccalaureate and higher degree nursing programs to participate in clinical research, and reward them for doing so.

F. PHARMACY

PROFESSIONAL CHARACTERISTICS

Pharmacy is the health care profession responsible for dispensing medicines, educating patients about their medications, and working with other clinicians to promote effective use of drugs. Over the past few decades, pharmacy has changed from a profession focused primarily on distributing drug products to one with a more comprehensive grasp of drug therapy.

The two professional degrees in pharmacy are the B.S. Pharmacy and the Doctor of Pharmacy (Pharm.D.). Both degrees require a minimum of five academic years of baccalaureate study, at least three years of which must be spent in an accredited school of pharmacy. The Pharm.D. requires at least one additional year and is offered both as an entry-level degree and as a post-B.S. degree. Recently the profession has been moving toward the Pharm.D. as the only entry-level degree. Forty-eight of the 79 schools of pharmacy exclusively offered the Pharm.D. in 1997–98.



Source: AACP: Academic Pharmacy's Vital Statistics, 1997.

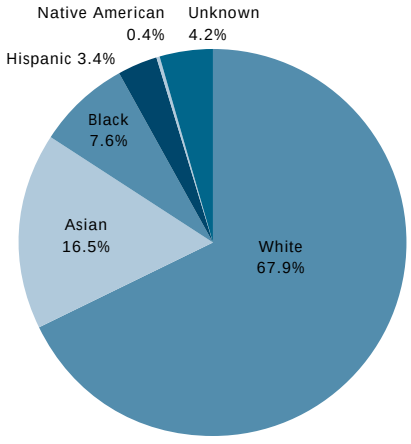
Figure 22

Distribution of Pharmacy Students Across Degree Programs, Fall 1996

Pharmacy education mirrors the medical model in that residency and fellowship training are available after graduation. Pharmacy residencies are, however, optional. After completing a one-year general pharmacy practice residency, graduates can perform one-year residencies in infectious disease, oncology, psychiatry, drug information, pediatrics, geriatrics, clinical pharmacokinetics, nutritional support, and critical care, among other specialties. Sixty pharmacy schools offered some form of graduate education in 1996.

The distribution of pharmacy students across different degree programs is displayed in Figure 22.

In the fall of 1996, total entry-level pharmacy degree enrollment was 33,059 students, including 20,562 students in B.S. programs and 12,497 students in Pharm.D. programs. Of the total number of students enrolled in entry-level degree programs for fall 1996, 63.8 percent were women and 11.5 percent were underrepresented minority students (Figure 23).[72]



Source:
American Association of Colleges of Pharmacy.
Academic Pharmacy's Vital Statistics, November 1997.

Figure 23

Racial Distribution of Students Enrolled in Pharmacy Degree Programs, Fall 1996

ISSUES FOR PHARMACY

Continuing Evolution of Pharmacy Practice Roles

Due to the growing use of technicians and automation, the rise of the chain

pharmacy industry, and the pressures of managed care, the pharmacist's role in dispensing drugs directly to consumers will probably continue to decline. Pharmacists are likely to have expanded roles, however, in drug therapy decisions, such as selecting drug products, providing drug-related information, monitoring and assessing patients to maximize adherence, detecting adverse reactions to drug use, and assessing outcomes of drug therapy. They may also be called upon to share the responsibility for health systems management by preparing reports on drug utilization and developing and maintaining drug formularies. To prepare for these challenges, pharmacists will need to combine a strong foundation in clinical therapeutics with strong communication skills, firm understanding of the health care system, effective team-building and management capabilities, and clinical problem-solving skills. They will also need the ability to translate these skills across different health care settings, including the ambulatory, long-term care, and community settings favored by managed care.

Need for Re-training and Continuous Education

Notwithstanding the recent shift in pharmacy training to the Pharm.D. model, about 90 percent of practicing pharmacists have only a bachelor's degree. They have been primarily involved in the dispensing of pharmaceuticals. If these practitioners are to be prepared to meet the nation's emerging health care needs, educators and employers must be willing to experiment with methods of re-training. Pharmacists must be able to upgrade their professional competencies through programs that do not require them to take a two-year leave from their employment situation.

Future Collaboration with Other Providers

Drug therapy has gradually grown into a collaborative enterprise in which pharmacists give input to and receive feedback from physicians, dentists, and other providers in the appropriate use of drugs. As pharmacists expand the definition of their profession to include clinical decision-making activities that were once the exclusive domain of other health care providers, they must also find ways of cooperating with allied

pharmacy workers in performing the "traditional" functions of pharmacy. Laws regulating the practice of pharmacy have gradually been changing to permit technicians and other personnel to assume more of the responsibilities of filling prescriptions and dispensing drugs. Future pharmacists are likely to work with allied workers in increasingly cooperative and differentiated roles to achieve the cost and quality outcomes demanded by employers.

Growing Need for Cultural Competency

With the growing use of complementary and alternative therapies in our diverse society, there is a need for pharmacists who can bring a broader cultural perspective to drug therapy. Substance-based treatments form a major part of the majority of alternative therapies used in the U.S.: herbal therapy, aromatherapy, chelation therapy, homeopathy, naturopathy, among others. The pharmacist may be the most appropriate health care professional to take a leadership role in evaluating and disseminating information about these alternative therapies. Pharmaceutical education therefore has an obligation to provide pharmacists with the knowledge and skills necessary to understand the role that these therapies may play in the delivery of care.

RECOMMENDATIONS FOR PHARMACY

F1. Continue to orient pharmacy education to reflect pharmacists' changing practice roles and settings under managed care and in clinical drug therapy.

- Adjust curricula to provide students with the skills in population management, epidemiology, pharmacoeconomics, outcomes measurement, health services research, and health care organization that are demanded by emerging systems.
- Encourage pharmacy schools to become more active partners in residency training and expand training sites to more ambulatory and managed care settings.

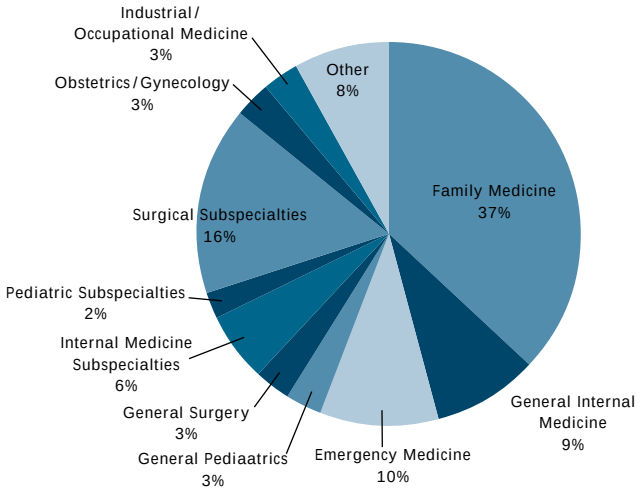


Figure 24

Distribution of PAs by Specialty

F2. Embrace an interdisciplinary approach to health care delivery.

- Re-focus educational programs to prepare students in the team-building and management skills that will allow them to work smoothly with other providers.
- Foster collaboration with pharmacy technicians and other allied health workers and encourage them to contribute to patient care to their full capacity.

3. Provide opportunities for re-training and continuing education for practitioners to develop skill sets for expanded clinical roles beyond dispensing pharmaceuticals.

- Continue to explore nontraditional, distance-learning techniques, including written materials, videotapes, interactive television, and the Internet.
- Take advantage of opportunities to provide greater exposure to managed care organizations and chain pharmacy settings in re-training programs.

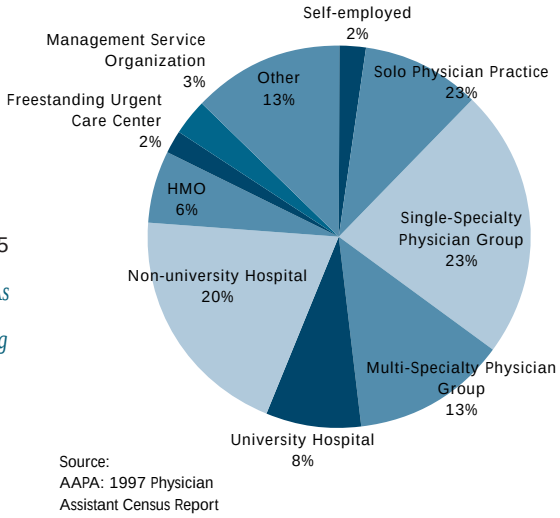


Figure 25

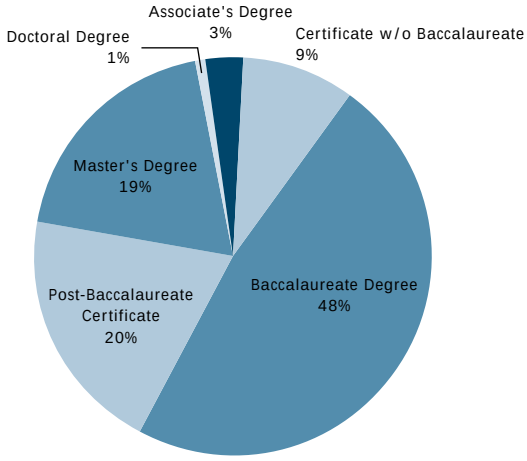
Distribution of PAs by Practice Setting

G. PHYSICIAN ASSISTANTS

PROFESSIONAL CHARACTERISTICS

Physician assistants (PAs) practice medicine under physician supervision in a variety of roles and settings. Some are overflow providers for same-day appointments, some staff urgent care clinics, and others provide primary care in conjunc-

tion with a supervising physician. Many physician assistants also practice with a significant amount of delegated authority, managing panels of patients as designated primary care providers, or leading primary care teams that consist of non-physician providers as well as a supervising physician. The distribution of PAs across different specialties and practice settings is shown in Figures 24 and 25.



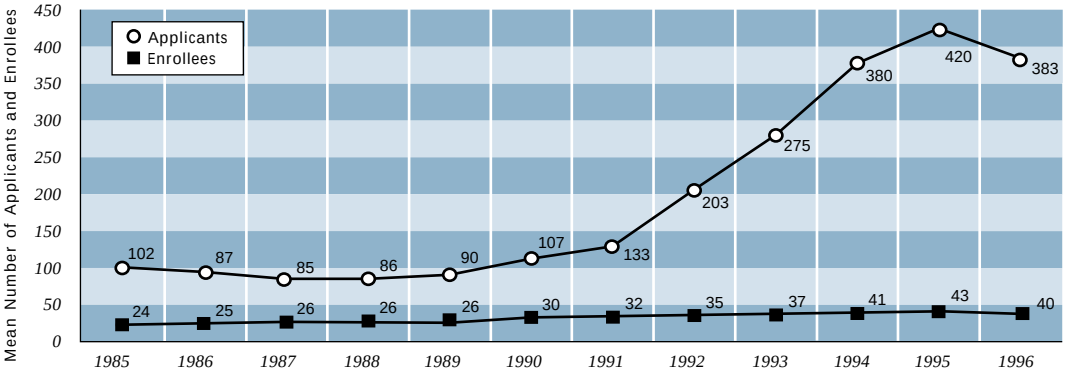
Source:
AAPA: 1997 Physician
Assistant Census Report

Figure 26
Percent of PAs in Various Degree Programs

PA education, often termed a "condensed version of medical school," is generally 24 months in length. Programs exist in four different academic pathways: certificate programs, associate degree programs, bachelor's degree programs, and master's degree programs (Figure 26).

The physician assistant portion of training is the same regardless of degree level: the first year emphasizes general medical sciences, while the second year is devoted to clinical rotations. Overall, PA education has been considered innovative in its emphasis on primary care. Trends in applications to and enrollments for PA programs for 1983-1996 are shown in Figure 27.

There are currently around 31,300 physician assistants in practice in the United States.[73] The profession appears to be divided almost evenly between men and women, and a 1997 census found that approximately 8.5 percent of physician assistants are minorities.[74]



Source: Association of Physician Assistant Programs, 1997.

Figure 27
Average Number of Applicants and Enrollees per PA Program, 1983–1996

As a legal matter, PAs practice under state-by-state practice acts and through the delegatory power of their supervising physician. Physician assistants are legally recognized to practice in 49 states, the District of Columbia, and Guam. Additionally, physicians may delegate prescribing to PAs in 41 states and the District of Columbia. In 32 of those states, PAs may additionally prescribe controlled substances.

Changing Demand for Physician Assistants

An Association of Physician Assistant Programs research panel recently estimated that the supply of physician assistants will double by the year 2006, given current rates of growth.[75] Citing rising salaries and the high percentage of physician assistants in clinical practice, some argue that the demand for PAs will also continue to grow in the near future.[76] Recent changes in Medicare reimbursement policy are likely to encourage the future utilization of physician assistants as substitutes for medical residents in non-hospital sites. However, competition from other providers for primary care jobs is also increasing in many areas, due to the growing numbers of medical students and advance practice nursing students choosing primary care fields. Although PAs should continue to be attractive to employers as cost-effective providers, the future may bring more competition for fewer jobs, and with it, lower rates of compensation.

Competition for Training Sites

As training sites face growing financial pressures under managed care, many may conclude that the costs of conducting teaching programs in their clinics are not worth the benefits. Due to GME reform, non-hospital sites may be reimbursed for training physicians in the future. No such funding support is currently available for non-physician practitioners, however. As a result, physician assistants and advanced nurse practitioners are likely to be at a disadvantage as they compete with physicians for clinical training sites. PA programs will need additional financial resources to ensure that their graduates gain exposure to the types of settings, practice models, and treatment modalities that characterize the new system.

Changing Relationship Between PAs and Physicians

The PA profession was originally based upon and continues to draw its strengths from the traditional clinical relationship between the physician assistant and the supervising physician. In this relationship, the PA frequently consults, refers patients to, and is reviewed by the physician. These activities can be seen as supportive of a well-designed health care system in general. However, managed care organizations are increasingly looking to physician assistants to fill niches in the delivery system without paying due attention to their relationship with physicians. Physician assistants and other non-physician practitioners may witness a backlash from physicians wishing to reassert their roles and authority in a more competitive environment.

RECOMMENDATIONS FOR PHYSICIAN ASSISTANTS

G1. Incorporate concepts including population-based care, accountability, outcomes information, professional interdependence, and linkages between health care delivery and finance into physician assistant education and training.

- Search for ways of adding concepts to existing course and clinical work in educational programs without extending the current length of PA education.
- Focus national leadership on developing accreditation standards that encourage PA training programs to incorporate appropriate principles in the curriculum.

G2. Federal funding for graduate medical education should be made available to support the training of physician assistants and advanced practice nurses in clinical settings.

- Pay funds directly to the clinical service site providing physician assistant training and not to the educational programs that are responsible for planning education.
- Develop a mechanism to ensure that this funding does not create an unwarranted expansion of the number of training sites for physician assistants.

G3. Affirm the physician/PA relationship as it was created and has existed, rather than re-defining it to give the PA a more isolated role from the physician.

- Project physician assistants into emerging manage care practice models in ways that maintain the traditional values and intent of physician/PA collaboration.
- Develop new models for expanded physician practice which effectively utilize physician assistants and other non-physician practitioners.

H. PUBLIC HEALTH

PROFESSIONAL CHARACTERISTICS

According to the Institute of Medicine, the mission of public health is to, "fulfill society's interest in assuring conditions in which people can be healthy."[77] Unlike the clinical disciplines, public health focuses on whole communities, rather than the health of any single individual. The public health workforce is composed of people from diverse disciplines, including public health, medicine, nursing, sociology, statistics, and economics. It also includes lay workers with scant academic credentialing but significant life experience.

The academic curriculum in public health is designed to fulfill two goals: 1) educating professionals who wish to specialize in the traditional public health fields, such as epidemiology, biostatistics, and the administration of health services; and 2) providing professionals from other health disciplines with an understanding of public health perspectives, values and techniques. The training of lay workers occupies only a small portion of current academic resources. The multi-disciplinary nature of public health underscores one of its major strengths: its ability to provide a historical heritage, common language and value set through which professionals and workers from multiple disciplines can communicate to understand and collaboratively improve community health.

The first academic department of public health was established in 1883 and the first full school established in 1913.[78] Today, there are 27 accredited schools of public health in the United States, all of which offer course work in epidemiology, biostatistics,

environmental sciences, health policy and administration, health behavior and education and other core public health fields.[79] Some schools are independent and autonomous within a health sciences center, while others are more closely linked to schools of medicine, nursing, or other health care professions. There are also 11 accredited graduate programs in community health education, 20 in community health/preventive medicine and a multitude of various programs at the baccalaureate and community college level. In 1996, U.S. public health schools graduated over 5,000 students, including 4,432 with master's degrees and 518 with doctoral degrees.[80]

The work of public health goes on in a variety of settings, including: local, state, and federal government health agencies; private sector health care organizations that provide consultative, advocacy and clinical services; and universities and schools that perform research in public health. Still other functions are carried out by environmental, agricultural and education departments. This diversity of employment locations has made it difficult to enumerate precisely the composition of the work force. It has been estimated that in 1997 there were some 250,000 persons employed by county and city public health departments alone.[81]

ISSUES FOR PUBLIC HEALTH

Providing "Public Goods" in a Private System

The Pew Commission believes that public health institutions and disciplines are more important than ever in developing, promoting and providing the "public goods" which are easily overlooked in an era of market individualism. These public goods are more than what the market fails to deliver (such as care to the uninsured). They also include categorical focus and program activity in the areas of environmental protection, health promotion and disease prevention. Furthermore, public health endeavors to understand and act on the interrelationships among these areas, as well as their individual relationships to biomedical science and curative medicine.

State and local governmental public health agencies, where the most focused programming is carried out, has long had to make do with scarce resources and

abundant demand. Today, systemic changes in health care are further complicating their mission. First, the nation's default to market-driven health care and the privatization of health insurance for the poor and elderly is reordering the roles and responsibilities for the public and private sectors. Second, both the public and private sectors have awakened to the need for, and importance of, working with all of the entities and people within a community.

Public health's traditional core functions, tools and essential services are being grafted onto different organizations, and shaped by new leadership and political and economic realities. This is a healthy step, especially if what accompanies this transformation is the community focus at the heart of public health. According to the Public Health Service, the core functions of public health can be viewed more explicitly as a list of essential services.[82]

- Monitoring of health status to identify community health problems;
- Diagnosing and investigating health problems and health hazards in the community;
- Informing, educating and empowering people about health issues;
- Mobilizing community partnerships to identify and solve health problems;
- Developing policies that support individual and community health efforts;
- Enforcing laws and regulations that protect health and ensure safety;
- Linking people to needed personal health services and assure the provision of health care when otherwise unavailable;
- Assuring a competent public health and personal health care workforce;
- Evaluating the effectiveness, accessibility, and quality of personal and population-based health services; and
- Research innovative solutions to health problems.

The National Association of County and City Health Officials suggests that the role for governmental public health agencies is to assess which of these services are delivered in

their jurisdiction; develop regulatory or financial incentives for organizations to deliver them; and more selectively determine which services it should retain.[83] Still others believe that public health institutions, professions and occupations must serve as the predominant "watchdog" for quality monitoring, enforcement and advocacy in the system at large, where private markets do not always meet public needs.[84]

Expanding Public Health's Working Partnerships

Those currently working to improve the public's health must extend their collaborations beyond traditional clinical partnerships. Public health agencies are developing partnerships with managed care organizations to share data and expertise, reduce costs and provide services.[85] Effective public health practitioners must now coordinate health promotion and disease prevention efforts of private providers, legislative bodies and tax authorities, regulatory agencies, the police and courts, schools and voluntary community groups.[86]

Furthermore, capitation of populations of patients under managed care will require the professions to understand and adopt public health principles and perform their individual roles in providing the essential services. Public health should assume a leadership role in collaborating with medicine, nursing, allied health and other disciplines (whose traditional focus may not be community health) to reach the goals of population-based medicine.[87] Finally, public health is also confronting the globalization of health concerns, and the broad partnerships and leadership demands necessary to promote worldwide health and wellness.

The Roles and Responsibilities of Public Health Schools and Programs

Earlier Pew Commission reports have urged four aims for the strategic restructuring of public health schools, if they seek to respond to the various forces affecting community health. First, public health schools must accommodate the evolution of the health care economy by collaborating with managed care and integrated delivery systems. The goal should be to ameliorate market failures and shortcomings that put

the public at risk. Second, collaboration between public schools and local and state health departments would offer significant opportunities for research, practice innovation, and educational experiences for students. Studies have show, for example, that public health workers were found to need additional competence with computer and information systems, research and policy development, and management.[88] Others see the public health workforce of the future needing training in the prevention of emerging diseases, a broad knowledge of behavioral and other sciences, leadership skills, and cultural sensitivity.[89] Third, public health schools and programs should collaborate among themselves to foster innovations in research, practice and education. Finally, public health schools and programs should assist the clinical sciences in learning the public health competencies essential for population-based care.

Public health schools and programs are critical in developing and sustaining efforts to strengthen public health and the workforce. The Pew Commission has not been alone in recognizing schools' roles in meeting these challenges. Some researchers have suggested that schools should focus on advanced technology, core public health functions, policy and financing, academic-practice links, educational research and training, and coordination.[90] Others assert that over the years the missions of schools of public health have drifted toward an over-emphasis on research and away from partnerships with practicing clinicians.[91]

RECOMMENDATIONS FOR PUBLIC HEALTH

H1. Each state should undertake a broad assessment of its public health workforce in order to facilitate workforce planning and training.

- Using a standard taxonomy of professions and occupations, this assessment should target the multiple sectors in which essential services are delivered, to identify the type of service performed, the profession or occupation in the position, and the competencies necessary to perform the work effectively.

- Several entities in a state could lead or collaborate in such an assessment, including the state, public health or medical schools, consortia of local departments, or the community college system.

H2. Public health schools and departments should develop certification and continuing education programs to help public health providers upgrade and maintain their competence.

- These programs should be in the important knowledge and technical skill areas (such as epidemiology, social marketing, administration, environmental health) that can be delivered flexibly (such as distance learning) to workers in both the public and private sectors.
- Government, at both the federal and state level, should budget resources for the continuing education of the public health workforce.

H3. Public health curricula and training in both schools and individual programs should expose students to, and prepare them for, the multiple sectors in which public health services are delivered.

- Schools and programs should recruit, retain and value faculty with a broad set of experiences in various types of health care delivery settings.

H4. Public health departments, schools and professions should urge other professions and organizations in assessing and promoting the public's health.

- Schools and programs should develop educational and research programs that actively involve other professions and organizations that provide population-based services, including integrated delivery systems.
- Accreditors of health professions education (e.g. – Liaison Committee for Medical Education, National League for Nursing) should consider including public health courses and competencies in their accreditation requirements.

H5. Public health schools, programs and departments should focus some of their resources on training lay health workers and community residents to understand the mission of public health and equip them with the basic competence to accomplish this mission.

- Schools and programs should develop training programs that target those persons working in public health who do not have training and could benefit from focused certification programs.
- Private sector organizations involved in public health should also invest resources in training a competent workforce.

VI Public Policy Recommendations

In addition to the profession-specific recommendations described in Part IV, the Pew Commission supports a range of public policies that would assist the health professions in their efforts to reposition themselves for the coming decades. We see at least three key leverage points for changing the health professions: 1) the accreditation of educational programs, 2) the state-based professional regulatory process and 3) the federal funding of health professional education. Each of the following sections draws from the work of separate task forces of the Pew Commission. Each task force has issued a more detailed report through the Pew Commission.

ACCREDITATION OF EDUCATIONAL PROGRAMS[92]

Accreditation is the process through which the medical professions assure the quality of their educational programs. These self-governed programs have bolstered professional stature, enhanced the credibility of professional licensure, and secured links to public funding for health professions education. But they have not gone as far as they could to adapt to today's changing health care system. By reconceptualizing accreditation from a regulatory burden to a facilitator of improvement, accreditation can become a valuable assessment tool and provide the evidence needed to justify and support improvements in education to better prepare new health professionals for their roles in the evolving health system.

Accreditation, as we define it, refers to the system of evaluation and improvement related to university-based educational programs preparing new health professionals, commonly referred to as specialized or professional accreditation; it does not refer to institutional or organizational accreditation, or accreditation of post-graduate or continuing education programs. Accreditation across the health professions consists of a series of common activities:

- Self-study;
- Preparation of documentation;
- On-site peer evaluation;

- Report;
- Accreditation decision; and
- Periodic review and reporting.

There are four focus points where health professions education accreditation could change to accommodate today's evolving health care system: 1) Their values and their accountability; 2) Their governance structure; 3) Their standards and their adaptability; and 4) Their internal operations.

Recommendations for ACCREDITATION

1. Educational institutions, programs and accreditors should recognize their shared responsibility for responding to the changing needs and demands of the public, employers, professional bodies and students.

- Establish broad competencies needed for practice through a collaborative approach among educators, professional organizations and employers and an on-going assessment of changing practice needs.
- Integrate the accreditation process into a larger system of program review, improvement and regulation. While some relationships exist among the various parts of this system (professional regulation, individual licensure and certification, organizational accreditation, peer review, state review, etc.), there appear to be cases of overlap and duplication of effort.

2. Educators and accreditors should work together to foster continuous assessment and improvement.

- Articulate accreditation in the context of current practice and the anticipated future directions.
- Actually commit to making improvement a part of the daily work of institutions. This would make accreditation more of a process than a series of burdensome external mandates.

3. The accreditation process should encourage creative methods and measures to enhance efficiency, minimize waste and duplication, and streamline assessment processes.

- Streamline the accreditation process to increase accountability and minimize duplication and waste.
- Restructure site visits as focused reviews, emphasizing opportunities for constructive consultation.
- Increase flexibility and responsiveness of the process by integrating contemporary technology and relying upon more electronic communication and other resource-conserving approaches.

4. A consistent "5+1 criteria" approach for accreditation should be adopted by all specialized and professional accrediting agencies, consisting of five common criteria and one profession-specific criterion.

- Base accreditation on the following areas:
- Connection of the community of practice and the public to prepare the workforce for the relevant community needs/assets;
- Appropriate, periodic and ongoing faculty development and evaluation;
- Assessment of the competencies and achievements of its students and graduates;
- An effective process of continuous self-assessment, planning and improvement; and
- Representation the public to ensure accountability and consumer choice.
- Each accrediting agency would create one additional criterion that would acknowledge the unique aspects of the profession being reviewed.

REGULATION OF THE HEALTH CARE WORKFORCE [93]

Critical issues facing health professions regulation

Health care workforce regulation plays a critical role in consumer protection. For most of this century, the state regulation of health care occupations and professions has established a minimum standard for safe practice and removed the egregiously incompetent. As market and

regulatory forces shape the future of health care, particularly the location and content of practice, the structures and functions of state professional regulation must continue to provide consumers with important protections leading to safe and effective practice.

This ostensible goal of professional regulation – to establish standards that protect consumers from incompetent practitioners – is eclipsed by a tacit goal of protecting the professions' economic prerogatives. This dichotomy of goals has created serious shortcomings that include limited public accountability, support for practice monopolies that limit access to care and lack of national uniformity. These shortcomings are further exacerbated by the current changes in health care.

To become a viable element of consumer protection in health care, professional regulation must demonstrate that it unequivocally serves the public good. This will require that it evolve at the same rate as the economic, political, intellectual and technological environments in which its licensees work. In this context of consumer protection, regulators, legislators, policy makers and health care professionals face challenges in three priority areas: the governance of health professions boards, scopes of practice authority, and continuing competence.

Regulatory boards and governance structures

Key to the current professional regulatory scheme is the professional board. With few exceptions, an individual and independent board is established for each regulated profession in each state. Although charged with consumer protection and despite open meeting laws, board processes are generally unknown to the public. At a time of increasing demands for credible and accountable consumer protection, some fear that boards may become relegated to a sideline role in shaping public policy that serves consumer interests.

There is little coordination of effort among the individual boards or among the states. This lack of coordination, particularly at a time of technological and marketplace change, produces discordant results such as underused professionals, competition for scopes of practice, limited professional mobility, and restricted access to care. Furthermore, in an era when information is crucial to public safety and effective markets, boards are insufficiently equipped and financed to collect, manage and publish information that would be useful to the public.

Scopes of practice authority

The legal authority to provide and be reimbursed for health care services is tied to state statutes generally referred to as practice acts, which establish professional "scopes of practice." These practice acts, often different from state to state, are the source of considerable tension among the professions; the resulting "turf battles" clog legislative agendas across the country. Caught in the middle of these battles, legislators must decide whether new or unregulated disciplines and occupations should be regulated and whether professions currently regulated should be granted expanded practice authority.

These battles are costly and time-consuming for the professions and for the state legislators involved. The more critical problem, however, is the decision-making process itself which is distorted by campaign contributions, lobbying efforts and political power struggles. In this environment, practice act decisions may not be based on evidence regarding quality of care and the potential impact on health care costs and access. Such decisions (regarding who can competently provide what types of care) demand a more empirical foundation and a less political venue.

Continuing competence

Ensuring the competence of health care professionals throughout their careers is a persistent challenge to both public and private sectors. Few would disagree with the assessment that it is possible for a practitioner's competence to diminish years after initial licensure and that continuing education credits do not guarantee competence. Although some of the allied health professions boards (such as physician assistants and emergency medical technicians) do require periodic demonstrations of competence as conditions of continued licensure, most of the health professions boards (including boards of medicine, nursing and pharmacy) do not.

The monumental shift to new reimbursement and delivery structures has highlighted quality of care issues. Underlying managed care's critics and legislative restraints is the concern that high quality health care – and a professional's competence to provide it – may suffer from too much attention on reducing costs. Requiring demonstrations of

competence during professionals' careers could shift attention to the quality of care delivered to patients and clients.

Legislatures have not allowed or required regulatory boards to play a role in requiring continuing competence demonstrations of their licensees throughout their careers. The private sector has been far more active in this arena. Voluntary professional associations and private certification and credentialing boards have established and continue to perfect standards, goals and evaluation measurements to meet the demands for competence throughout one's professional practice. These models are good starting points but will need additional development. In addition, the role of the private sector can only go so far. Practitioners whose credentials are not routinely reviewed by private systems may fall through the cracks without attention by the states.

Desired outcomes for the future of health care workforce regulation

The Pew Commission envisions a future regulatory system for the health professions that will undergo the following transformations to better serve the public interest:

A move towards national standards – Health care workforce regulation, along with education and credentialing, is moving in the direction of national standards. This national uniformity may be led by the federal government, agreements among the states or national professional associations. If this shift can be made, it would have dramatic effects on standard scopes of practice authority and continuing competence requirements for each profession across the country.

Significant overlap of practice authority among the health professions – Driven by the professions, new information and technologies, and innovation in the workplace, traditional boundaries – in the form of legal scopes of practice – between the professions have blurred. This trend will continue to pressure the regulatory system to accommodate the demand for flexibility while ensuring that the public's safety is protected. Decisions regarding scopes of practice and continuing competence requirements therefore must be based on comprehensive evidence regarding the accessibility, quality and cost-effectiveness of care provided to the consumer.

New venues and participants for regulatory policy-making – The representation of various parties at health care decision-making tables is changing. State legislatures may not be the best venue to decide technical professional matters as lobbying, campaign contributions and allegiance to constituents often distort rational policy development. A different venue with increased representation of interested parties, particularly consumers of health care services, will better support regulatory policy-making that is accountable, balanced and based on empirical evidence.

Integration of regulatory systems that protect health care consumers – Efforts to regulate health care plans, care delivery sites and health care professionals historically have been independent, both within and across states. This lack of coordination and integration among systems has resulted in inefficiencies and inadequate protection of the public. For example, poor coordination restricts practitioners who might competently provide care, particularly across state borders. Poor coordination also allows incompetent practitioners to move from health plan to health plan and from state to state. Today's market trends to integrate the various regulatory and delivery systems will mean that health professions regulation will be scrutinized and evaluated for its strengths and weaknesses with an eye toward consolidating systems where appropriate to better serve the public.

Increased regulatory focus on quality of care and competence assurance – Concerns over market forces in health care will illuminate the need to strengthen all means of ensuring consumer protection. The resulting integration of regulatory entities and increased consumer participation in policy making will contribute to regulations that emphasize quality assurance, continuing competence demonstrations, and cooperation among the professions.

Recommendations for REGULATION OF THE HEALTH CARE WORKFORCE

Regulatory Boards and Governance Structures

1. Congress should establish a national policy advisory body that will research, develop and publish national scopes of practice and continuing competency standards for state legislatures to implement.

2. States should require policy oversight and coordination for professional regulation at the state level. This could be accomplished by the creation of an oversight board composed of a majority of public members or it could become the expanded responsibility of an existing agency with oversight authority. This policy coordinating body should be responsible for general oversight of that state's health licensing boards and for assuring the integration of professional regulation with other state consumer regulatory efforts (e.g. health facility and health plan regulation).

3. Individual professional boards in the states must be more accountable to the public by significantly increasing the representation of public, non-professional members. Public representation should be at least one-third of each professional board.

4. States should require professional boards to provide practice-relevant information about their licensees to the public in a clear and comprehensible manner. Legislators should also work to change laws that prohibit the disclosure of malpractice settlements and other relevant practice concerns to the public.

5. States should provide the resources necessary to adequately staff and equip all health professions boards to meet their responsibilities expeditiously, efficiently and effectively.

6. Congress should enact legislation that facilitates professional mobility and practice across state boundaries.

Scopes of Practice

7. The national policy advisory body recommended above should develop standards, including model legislative language, for uniform scopes of practice authority for the health professions. These standards and models would be based on a wide range of evidence regarding the competence of the professions to provide safe and effective health care.

8. States should enact and implement scopes of practice that are nationally uniform for each profession and based on the standards and models developed by the national policy advisory body.

9. Until national models for scopes of practice can be developed and adopted, states should explore and develop mechanisms for existing professions to evolve their existing scopes of practice and for new professions (or previously unregulated professions) to emerge. In developing such mechanisms, states should be proactive and systematic about collecting data on health care practice. These mechanisms should include:

- Alternative dispute resolution processes to resolve scope of practice disputes between two or more professions;
- Procedures for demonstration projects to be safely conducted and data collected on the effectiveness, quality of care, and costs associated with a profession expanding its existing scope of practice; and
- Comprehensive legislative "sunrise" and "sunset" processes that ensure consumer protection while addressing the challenges of expanding existing professions' practice authority, and regulating currently unregulated healing disciplines.

Continuing Competence

10. States should require that their regulated health care practitioners demonstrate their competence in the knowledge, judgment, technical skills and interpersonal skills relevant to their jobs throughout their careers.

FEDERAL GRADUATE MEDICAL EDUCATION [94]

The momentous changes in health care in the U.S. have affected none as profoundly as physicians, yet the system that supports the education of physicians has changed little since the 1960s, with unfortunate consequences for the public health and the profession of medicine. The managed care revolution has pared the demand for

physician services in many of the markets where the most physicians practice, while economic forces have left many towns and neighborhoods underserved by doctors. Managed care has also shifted vast amounts of care out of the hospital and into ambulatory settings, but physicians are still trained overwhelmingly in acute settings. Graduate Medical Education (GME) policy, the system through which hospitals get paid to support the training of residents, is one of the few policy levers the federal government has to compensate for these inconsistencies in supply and demand of physician services, but it has largely neglected to use it. Trends in the physician workforce indicate a need to reform federal GME policy to better align policy with the market's signals and the public interest.

Payment for residency training in medicine was a part of the landmark legislation for Medicare and Medicaid passed in 1965. As the legislation expanded health coverage first for the elderly and then for the poor, it rightly anticipated that the demand for physician services would grow. To account for this growth the legislation created a mechanism by which hospitals that were engaged in training would be compensated for both direct and indirect costs of GME. As time passed, it became evident that many of these training institutions were responsible for providing a large share of complex and expensive care, especially for persons without health insurance. To compensate them for providing a disproportionately large share of this care, government subsidies were increased.

These policies – one to subsidize the poor and the other to subsidize residencies – happily coexisted for nearly 30 years. Physicians' incomes grew steadily despite large increases in the numbers of American and international medical graduates, suggesting that the nation needed more physicians. Few questioned the reliance on teaching hospitals' emergency rooms to provide care to the uninsured. More recently, however, there are signs that the supply of many types of physicians exceeds demand and growing recognition that health services to the poor might be provided more effectively through other means.

In the long run, the country needs one policy structure that can ascertain the numbers and types of physicians that are needed and use subsidies to produce such outcomes. It needs another policy to underwrite care for the poor in the most appropriate settings.

The arbitrary elision of these two distinct missions is no longer sustainable. Teaching hospitals should receive separate subsidies for other special contributions they make to the public's health and well being.

To ensure that beneficiaries of federal programs and the public at large have access to an appropriate complement of physicians, federal GME subsidies must be revamped with five goals in mind.: 1) Training physicians in more diverse clinical sites; 2) Rational distribution of physicians by specialty; 3) Equitable geographic distribution of physicians; 4) Improved racial/ethnic distribution of physicians; and 5) Training to practice as members of multi-disciplinary teams.

As byproducts of their educational activities, teaching hospitals produce three additional "public goods": uncompensated care; highly specialized health care services; and research. Under current market conditions, teaching hospitals cannot provide appropriate quantities of these goods without some sort of federal subsidy, nor will other entities provide them in place of teaching hospitals. This is particularly true of uncompensated care. The growth of managed care is reducing the amount of discretionary revenue that teaching hospitals have to subsidize uncompensated care and other social missions. Public teaching hospitals are particularly at risk, because a large percentage of their patients are uninsured. Funding for other federal and state programs that support uncompensated care, such as community health center grants, has not kept pace with demand.

That said, teaching hospitals must be held accountable for appropriate use of subsidies provided for these purposes. Most federal and state GME subsidies have given teaching hospitals financial incentives to hire residents to provide services with little regard to the demand for physicians. A new social contract is needed to align funding for these three public goods and ensure that teaching hospitals respond to the public needs in all of these areas. Reform is needed but not because teaching hospitals are receiving too generous a subsidy for uncompensated care and other non-educational public goods. Rather, these public goods are being subsidized illogically in the guise of payments for education with little accountability for outcomes in any of these arenas.

Shortcomings of Current Medicare GME Policy

Significant reforms in Medicare GME policy were enacted as part of the *Balanced Budget Act of 1997*. However, this legislation focuses on reducing Medicare GME expenditures rather than on aligning policy with the nation's workforce requirements. It is not enough. The Pew Commission has identified eight major shortcomings in Medicare GME policy that must be addressed. Similar shortcomings are evident in many states' Medicaid GME policies.

1. No mechanism exists to ensure that private beneficiaries of physician training contribute to subsidization of GME.

The *Balanced Budget Act of 1997* (BBA) does nothing to address declining subsidization of GME by private insurers. Private insurers used to indirectly subsidized GME by paying teaching hospitals at higher rates. This practice is increasingly less viable as managed care continues to drive down hospital utilization and reimbursement rates. In many metropolitan areas, teaching hospitals are not economically strong enough to demand fees high enough to support the educational mission. Only about half (55 percent) of managed care plans participate in the training of residents.[95] Private health plans derive as much benefit from GME as the Medicare and Medicaid programs and should continue to contribute to its subsidization. The Pew Commission reiterates its long-standing position that a uniform federal policy is needed to ensure that all private and public health plans contribute their fair share to GME, reversing the trend toward increased dependence on government subsidies to finance GME.

2. GME perpetuates the problematic linkage between education and care delivery

The BBA does not compel teaching institutions to disentangle educational and care delivery objectives. Under current policy, the Medicare GME subsidy flows only to clinical teaching sites. While these sites deserve appropriate compensation for clinical education expenses, their main focus is on patient care rather than education. As a consequence, they often base decisions about the number, specialty distribution, and training sites for residents primarily on the basis of patient care staffing needs which may not be consistent with educational

objectives or physician workforce requirements. While teaching hospitals, especially public teaching hospitals, have important roles to play in meeting health care needs in their communities, their immediate staffing considerations are not necessarily in line with the best long-range interests of the physician workforce. Medical school deans usually have little influence over clinical teaching sites' decisions about GME, in large part because they have little control over GME funding streams.

3. Market forces can't, on their own, regulate the production of physicians, particularly international medical graduates (IMGs).

The BBA does not contain sufficient incentives to compel teaching hospitals to respond to trends in market demand for physician services. The legislation is projected to reduce the number of residency positions in the U.S. by only 3 percent.[96] The U.S. is so saturated with specialist physicians that much more dramatic reductions are necessary to bring supply in line with requirements.[97] In addition, the Balanced Budget Act's provisions are not targeted to international medical graduates (IMGs) who account for most of the growth in the number of residents over the past decade. There are two major groups of IMGs: those who are citizens or permanent residents of the U.S. and those who are citizens of other nations. IMGs in the latter group hold temporary visas, usually granted under the exchange visitor program (J-1) or temporary worker program (H-1). For IMGs who are citizens of other nations, GME represents both a pathway to a career and a portal of entry into the U.S.

Trends in demand for U.S. residency positions among IMGs suggest that demand for residency positions is likely to remain at the current level, despite strong signs of contraction in the demand for physician services. The number of IMGs participating in the National Residency Matching Program increased 156 percent between 1990 and 1996.[98] The growth in the number of IMGs with exchange visitors visas has been especially pronounced. Between 1988 and 1996, the number of exchange visitor IMGs rose over 400 percent, from 2,098 to 8,986.[99] Approximately 70 to 75 percent of IMGs remain in the U.S. after completing residency training, adding to the oversupply of physicians.[100]

IMGs' demand for residency positions sends teaching hospitals a signal diametrically opposed to those sent by the market for physician services. Federal policy must create incentives for teaching hospitals to heed the later signal.

4. Variation in DME reimbursement are illogical.

Another shortcoming in Medicare GME policy concerns the wide and illogical variation in Direct Medical Education payments. DME payments are those expenses that go directly to support physicians in training, including residents' stipends, faculty costs and institutional costs, such as a library. A Congressional Budget Office study found that the top quarter of teaching hospitals receive more than $102,000 annually per resident while the bottom quarter receive less than $58,000 per resident (both figures in 1993 dollars), a much wider variation than the variation in stipends paid to residents and other direct costs of GME.[101] This variation can be attributed to three factors: the number of FTE residents, Medicare utilization of inpatient services, and individual teaching hospitals' "per resident" payment amount. The "per resident" amounts vary widely and for most teaching hospitals are based upon reported costs for 1984 adjusted for inflation. The variation in "per resident" amounts cannot be explained by differences in cost of living and other external variables, leading experts to conclude that the variation reflects idiosyncrasies in cost allocation 14 years ago.[102, 103] The BBA's provision for a cap on the number of Medicare funded residency positions removes the strong financial incentive that teaching hospitals at the high end of the DME payment spectrum had to add residents but does not alter the "per resident" formula. The Act also acknowledges concern about the formula by mandating a study of variation in DME payments. However, further study seems unnecessary given the weight of the evidence against current policy.

5. There are insufficient incentives for maintaining generalist positions.

Absent from the BBA are any additional financial incentives for training generalist physicians. Although current supplies of generalist physicians appear adequate, the U.S.

may not be able to sustain a sufficient supply of generalists over the long run without further policy intervention.[104] Some experts believe that the reduction in the IME percentage enacted in the Balanced Budget Act of 1997 will lead teaching hospitals to favor *specialist* residency programs even more, because they generate greater revenue than generalist programs. There needs to be a stronger push to reduce the number of residents trained in oversupplied sub-specialties such as anesthesia, emergency medicine and pediatrics[105] and shift positions to generalist programs.

Under current law, residents in training beyond the minimum number of years required for initial board eligibility are counted as half a full-time equivalent. In addition, payments for residents in non-primary care disciplines were frozen in 1994 and 1995 rather than adjusted for inflation as payments for primary care residents were. Payments have not been adjusted in subsequent years to eliminate this discrepancy.[106] These provisions give teaching hospitals a financial incentive to shift residency positions from subspecialty to generalist training programs but the results to date have been decidedly mixed. A stronger incentive seems necessary to promote reductions in the number of specialty residency positions.

6. There are insufficient incentives for training residents in non-hospital settings.

A greater percentage of GME must take place in non-hospital settings to provide physicians with adequate preparation for practice in the 21st century. The Balanced Budget Act provides important new incentives for training physicians in non-hospital settings. In particular, the Commission looks forward to the implementation of DME payments to non-hospital sites, as this should encourage these sites to play a more active role in GME. However, the BBA does not authorize reimbursement of non-hospital sites for indirect medical education expenses, despite the fact that non-hospital sites that participate in GME appear to incur significant indirect costs. Establishing parity between reimbursement for GME in hospital and non-hospital sites is important to create equivalent financial incentives for training in both types of sites.

7. The system needs more incentives for cost control and sound cost accounting.

Medicare has not required teaching hospitals to document their need for a GME subsidy. As a consequence, teaching hospitals have had no incentive to undertake the cost accounting necessary to disaggregate teaching, research, and patient care costs. The lack of accurate information about the actual cost of GME has rendered efforts to determine appropriate levels of subsidy for each of these public goods extremely difficult. The BBA will do little to improve GME cost control and cost accounting. While teaching hospitals that sign up for voluntary incentive payments to reduce residency positions will be compelled to scrutinize expenditures for patient care to develop new staffing configurations, they will not be required to disaggregate research and education costs. Those teaching hospitals that do not opt for the voluntary incentives will not even have to examine patient care costs.

8. There should be more support for the clinical education of advanced practice nurses and physician assistants.

Reimbursement for advanced clinical education in the auxiliary health professions is conspicuously absent from the BBA. The net result may be to exacerbate the difficulties advanced practice nurse (APN) and physician assistant (PA) education programs face in obtaining sufficient and appropriate clinical training sites. As described earlier in this document, APNs and PAs are growing professions that play an increasingly important role in today's health care delivery marketplace. The movement to more intensely managed systems of care is the major driving force behind the growing utilization of APNs and PAs. The willingness of these new delivery systems to adopt new clinical care models has opened practice opportunities to APNs and PAs.[107] In addition, reductions in first year residency positions in certain specialties have fostered increased opportunities for APNs and PAs in hospitals that previously relied on residents to provide these specialty services.[108]

Many PA and APN education programs, especially nurse practitioner programs, emphasize training in ambulatory sites that deliver primary care services, such as federally qualified health centers and rural health clinics. Under prior law, non-hospital, ambulatory sites faced the same financial disincentives for training physicians, APNs, and PAs.

Now that non-hospital ambulatory sites can be directly reimbursed for DME, these sites have a financial incentive to train physicians rather than APNs and PAs. This policy undercuts efforts to produce the multi-disciplinary primary care workforce the Commission believes is needed to provide the public with effective, high quality services.

Recommendations for REFORMING GME POLICY

Political barriers and gaps in knowledge about GME costs pose great obstacles to implementing the Pew Commission's vision for federal GME policy in the near future. However, a number of steps can be taken to improve federal GME policy in a manner consistent with this vision.

1. All-Payer Financing

An all-payer pool should be established to ensure that both public and private beneficiaries of medical education contribute to the subsidization of clinical education for physicians, APNs, and PAs. This recommendation is consistent with positions the Pew Commission has taken in previous reports.[109, 110, 111] This pool should be financed via a per-capita assessment on health plan enrollees (managed care and fee-for-service, including self-funded plans) and contributions from Medicare and other federal programs that subsidize GME. Revenues from both public and private payers should be deposited into a trust fund dedicated exclusively to funding clinical education for physicians, APNs, and PAs.

- All entities providing clinical education would be eligible for all-payer payments (including consortia and children's hospitals).
- A uniform per-resident payment formula should be established under which the per-resident component of DME payments would vary among teaching hospitals in only a limited fashion by external factors such as regional variation in cost of living.

2. Number of Positions Funded

The Pew Commission believes the BBA does not provide sufficient incentives to reduce the number of physicians trained in the U.S. to an appropriate level. Thus, the Pew Commission recommends that more stringent controls be established for allocation of funds from the all-payer pool.

- Set the number of all-payer funded residency positions at a level no greater than the number equivalent to 110 percent of the number of U.S. medical graduates (allopathic and osteopathic) in 1997, a reduction of 25 percent from the current number of federally subsidized first-year residency positions.
- The provisions of the BBA that cap the number of Medicare-funded positions at individual teaching hospitals should be applied to all-payer financing.

3. Eligibility for Funding

- Guarantee all-payer reimbursement for all U.S. medical graduates who have passed parts I and II of the U.S. Medical Licensure Examination or the Comprehensive Osteopathic Medical Licensing Examination and who are admitted to an accredited residency program.
- Develop a mechanism for allocating all-payer funding for a number of positions equivalent to the size of U.S. medical graduates plus 10 percent to subsidize the training of U.S. citizens and permanent residents educated in international medical schools. In developing this mechanism, policymakers *must* confront a major tradeoff between advancing educational principles and preserving institutions that have depended on IMGs to provide uncompensated care.
- Eliminate GME payments for IMG residents who are citizens of other nations but continue to permit them to complete GME in the U.S., provided their training is subsidized via foreign aid, their home governments, or private funds.
- With regard to non-citizen IMGs, the Commission reiterates its recommendation that U.S. immigration laws be tightened to ensure that foreign nationals return to their home countries upon completion of residency training.[112]

4. Incentives for Training Physicians in Generalist Disciplines

Two policies are needed to enhance existing strategies aimed at ensuring that the U.S. has an adequate supply of generalist physicians.

- Require teaching institutions that receive all-payer GME payments to continue to maintain the number of generalist residency positions they made available in 1997.
- Provide DME payments only for residents completing minimum requirements for initial board eligibility.

5. Indirect Medical Education (IME) Payments

The provision of the BBA which phases in a reduction in the IME adjustment percentage from 7.7 to 5.5 percent over a five-year period and caps the number of residency positions and the ratio of residents to beds should be applied to disbursement of all-payer funding for IME. Indirect Medical Education expenses go to institutions to pay for higher acuity levels of patients seen and the complexity of care delivered. Eligibility for IME payments should be consistent with eligibility for DME payments. Two additional modifications in IME policy are needed.

- Create a separate mechanism for payment of IME that is independent of payments for inpatient hospital services. Establish a separate system of prospective payment for indirect expenses associated with medical education under which payments would be divided among teaching hospitals, affiliated academic institutions, and non-hospital training sites. Work should commence immediately to develop formulas for allocating IME to non-hospital sites.
- Base a significant proportion of IME payments to teaching hospitals on historical IME revenues rather than the current ratio of full-time equivalent residents to beds.

6. Preserving Access to Care for the Uninsured

Since its inception, the Pew Commission has advocated universal access to health insurance for all Americans.[113] Expanding access to health insurance constitutes the most rational and

appropriate approach to ensuring access to care. The Commission is encouraged by recent incremental efforts to address this problem but recognizes that today many persons remain uninsured and that some of them, particularly those living in inner-city areas, depend on teaching hospitals for medical care. Recommendations for reform of federal GME policy *must* take the needs of this vulnerable population into account.

Developing GME reforms that do not compromise access to care for the poor is a formidable challenge but one from which the nation cannot shrink. For too long, concerns about institutions providing high levels of uncompensated care have posed a roadblock to major reform of GME policy. As the new millennium dawns, we must pursue strategies that address both sets of concerns in a rational and equitable manner.

- The Commission supports the provisions of the BBA that provide transition assistance to teaching hospitals that voluntarily reduce the number of residents they train.
- The Commission strongly recommends expansion of the National Health Service Corps' loan repayment program and modification of its eligibility criteria to facilitate participation by specialists where needed. This recommendation is an essential component of a comprehensive GME reform strategy, because it would provide a replacement workforce for communities that have depended on residents to deliver care to underserved populations.

7. Funding for Advanced Clinical Education of Nurse Practitioners and Physician Assistants

To promote a multi-disciplinary and flexible primary care workforce and ensure that APNs and PAs have adequate access to appropriate clinical training sites:

- Eliminate the Medicare subsidy for diploma nursing education programs.
- Create a new all-payer subsidy for clinical education of APNs and PAs.
- Cap number of APN and PA positions funded at the number of full-time equivalent students enrolled in 1997.

8. Federal Workforce Policy Commission

Finally, a new commission should be established and appropriated sufficient resources to track health care workforce trends and advise Congress, the President, and the U.S. Department of Health and Human Services regarding the all-payer pool and other health professions workforce policies. This new commission also should collect, analyze, and disseminate data about supply and demand for health professionals. The members should represent a broad cross-section of interested parties, including consumers, health professionals, health professions educators, and organizations involved in the financing and delivery of health care services. The commission should be a public-private partnership, in recognition of the contributions of private payers to the all-payer pool. This new commission is needed because no existing body is equipped to carry out this charge. Although Congress has directed the Medicare Payment Advisory Commission and the National Bipartisan Commission on Medicare to address Medicare GME policy, the mandates of these commissions are too broad to permit them to examine GME policy in depth. Existing workforce policy bodies, such as the Council on Graduate Medical Education are under-funded and focus too narrowly on a single profession.

VII Values of the Pew Health Professions Commission

From its inception in 1989, the Pew Health Professions Commission has focused its deliberations and recommendations on values that shape both care delivery and education. While these values can be seen in all of the work of the Commission, it is essential that they be reiterated in this last report.

The values described in this section transcend the narrow focus of health professional education and practice that has guided the work of the Pew Commission. These values describe the basic orientation of a just and effective system of health care. Each value is followed by a suggested benchmark toward a goal that the Commission regards as attainable.

UNIVERSAL ACCESS TO BASIC HEALTH CARE SERVICES.

First and foremost among the Pew Commission values has been an abiding belief that the health care system in this nation can never be truly effective or fair without a workable plan for *universal access to basic health care service*. The grounds for this belief are varied, each compelling in its own right, but together they represent more than sufficient reasons for collective efforts to achieve such policies. The added costs to society and individuals of our failure to insure all are well documented. The hope of a federally legislated approach to such polices faded with the failure of the *Health Security Act*. But the success of incremental approaches, such as the expansion of coverage, contained in the *Balanced Budget Act of 1997* offer encouraging examples of how this important value can be achieved. Systematic approaches to health care issues will remain elusive without health coverage for all.

Benchmark: Reduce the number of uninsured to below 10 percent of the population by the year 2005. The responsibility for the coordination of these efforts should be left to the states but funded by federal, state and private resources. By the year 2005, the following should also be accomplished: a comprehensive assessment of those parts of the population that remain uninsured and implementation of strategies at the state level that will insure all by 2010.

MORE EFFICIENT USE OF RESOURCES.

The changes that are coming to the health care system are being driven by a variety of forces. A number of forces now combine to improve the value derived from the investments made in health care by making *more efficient use of resources*. In the past the system of care was characterized by an independent array of disjointed providers and purchasers. Each did many good things for the consumers of health care, but they failed to overcome their independent interests to focus on the values of overall effectiveness. This led, in part, to oversupply of capacity, tremendous variability of outcomes and duplication of resources.

Whether motivated by profit or some other goals, the complex set of dynamics that are now moving through the system aspire in some general ways to produce more efficient and effective use of these resources. For five decades health care has experienced a level of independence that permitted almost unconstrained growth in the resources allocated to it by society. There seems to be increasing value on managing the health care resources of the nation more effectively. This means identifying clearly what outcomes are intended, using scientifically determined best practices to achieve these goals, measuring progress and, where needed, reinventing the processes through which care is delivered. These changes are coming about by market, professional, public and social forces. Regardless of their motivation, they will change the shape of health care. These changes need to continue and be carried out in a systematic fashion.

Benchmark: Create an assessment mechanism at the point of care delivery that ensures treatments are not under-utilized, over-utilized or misused for 30 percent of care delivered by the year 2005. By 2010 the percentage of services that pass this barrier should be 60 percent. Integrated systems of care must insure this at the point of delivery, but they will need the assistance of organized public research and professional associations.

SOCIALLY DESIRED OUTCOMES BASED ON EMPIRICAL EVIDENCE.

There is much to be valued in the qualities of the former health care system: the closeness of the provider/patient relationship, the discoveries of independent bio-medical investigators, the techniques developed by independent clinical researchers, and patient advocacy above all interests. But this independence of thought and action has also produced a highly idiosyncratic approach to the delivery of health services. This approach affects both what the provider desires to produce and what the patient wants to consume. Increasingly the emergent system will focus its attention on those activities that *produce socially desired outcomes assessed on empirical evidence*. In the first stage of change these outcomes will inevitably focus on cost, patient satisfaction and health care outcomes.

Benchmark: Create broad public discussion and education programs within each state. These programs should be conducted at the local level and include data gathered from the pattern of health care consumption in the region, alternatives that exist, and health outcomes data from other regions. The educational programs should range from elementary schools to retirement centers, but should include a great deal of intergenerational discussion. Communities should come to understand what resources are allocated to health care, for what purposes and who pays. These efforts are a logical undertaking for national and community-based foundations. Ten states should have such programs underway by 2005, and 20 more states should have programs ongoing by 2010.

CREATIVITY AND INNOVATION

In the past five decades the health care system has consistently grown, but remained amazingly stable. A quite predictable set of relationships between providers, payers, purchasers and patients emerged within an established pattern of power and hierarchies. In this context there was little, if any, motivation for *fundamental realignment, creativity or innovation*. The emergent system cannot afford to be locked into the familiar patterns

of care delivery. Rather, it must increasingly experiment with new providers, technology, administrative structures, and ways to involve the patient.

Benchmark: There are many barriers to bringing creative solutions to health care. Perhaps greatest among these is that fundamental change means alteration of the status quo for those who currently work in and benefit from the system. States provide most of the regulatory framework that keeps the health system in its current form. By the year 2005 every state in the nation should have reviewed its health care laws to ensure that they are orientated to meet the interests of the people of the state, promote efficient and effective use of resources, and provide for the legitimate interests of the state to ensure access to health care for all who reside there.

CHOICE

The Pew Commission believes that the best health care system will be based on informed choice and responsibility on the part of the public. For too long Americans have had a passive consumer role with the health care system. They made few real decisions, with limited data, and little, if any responsibility for the financial or health care consequences of their actions. This dynamic is a major cause of the cost and outcomes of health care today. To break this patterned relationship the system must begin to give individuals useful information, the opportunity to make decisions and incentives to change behavior.

Benchmark: By the year 2005, every insured individual should have at least two choices of health plans and providers. In making this choice the consumer should be provided with the very best information about the performance of both plan and provider in terms of clinical outcomes, cost and satisfaction. Where appropriate, the consumer should be given a choice of treatment, which also includes outcomes and cost information. It is appropriate for health insurers, both public and private, to create incentives for choices that represent good health.

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Pew Health Professions Commission

The Pew Health Professions Commission is a program of The Pew Charitable Trusts. The Pew Charitable Trusts support nonprofit activities in the areas of culture, education, the environment, health and human services, public policy and religion. Based in Philadelphia, the Trusts make strategic investments that encourage and support citizen participation in addressing critical issues and effecting social change. In 1997, with more than $4.5 billion in assets, the Trusts awarded $181 million to 320 nonprofit organizations.